

HD-SDI

EPHD16+U

16CH, 1080p, Real-time, Universal DVR

User's Manual



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EVERFOCUS ELECTRONICS CORPORATION

EPHD16+U Universal DVR

User's Manual

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Safety Precautions

- Refer all work related to the installation of this product to qualified service personnel or system installers.
- Do not block the ventilation openings or slots on the cover.
- Do not drop metallic parts through slots. This could permanently damage the appliance. Turn the power off immediately and contact qualified service personnel for service.
- Do not attempt to disassemble the appliance. To prevent electric shock, do not remove screws or covers. There are no user-serviceable parts inside. Contact qualified service personnel for maintenance. Handle the appliance with care. Do not strike or shake, as this may damage the appliance.
- Do not expose the appliance to water or moisture, nor try to operate it in wet areas. Do take immediate action if the appliance becomes wet. Turn the power off and refer servicing to qualified service personnel. Moisture may damage the appliance and also may cause electric shock.
- Do not use strong or abrasive detergents when cleaning the appliance body. Use a dry cloth to clean the appliance when it is dirty. When the dirt is hard to remove, use a mild detergent and wipe gently.
- Do not overload outlets and extension cords as this may result in a risk of fire or electric shock.
- Do not operate the appliance beyond its specified temperature, humidity or power source ratings. Do not use the appliance in an extreme environment where high temperature or high humidity exists. Use the DVR at temperatures within 0°C~40°C / 32°F~104°F (Storage). The input power source is 100-240 VAC~.
- **Read Instructions**
All the safety and operating instructions should be read before the unit is operated.
- **Retain Instructions**
The safety and operating instructions should be retained for future reference.
- **Heed Warnings**
All warnings on the unit and in the operating instructions should be adhered to.

- **Follow Instructions**
All operating and use instructions should be followed.
- **Cleaning**
Unplug the unit from the outlet before cleaning. Do not use liquid cleaners, abrasive or aerosol cleaners. Use a damp cloth for cleaning
- **Attachments**
Do not use attachments not recommended by the product manufacturer as they may cause hazards.
- **Water and Moisture**
Do not use this unit near water-for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, near a swimming pool, in an unprotected outdoor installation, or any area which is classified as a wet location.
- **Servicing**
Do not attempt to service this unit by yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- **Power Cord Protection**
Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
- **Object and Liquid Entry**
Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.
- **Battery**
Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
 - a. Use only two AAA dry cell batteries.
 - b. Do not dispose of the batteries in a fire as it may explode.



ATTENTION! This is a class A product which may cause radio interference in a domestic environment; in this case, the user may be urged to take adequate measures.



Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the users' authority to operate this equipment.



This Product is RoHS compliant.



Your EverFocus product is designed and manufactured with high quality materials and components which can be recycled and reused. This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste. Please, dispose of this equipment at your local community waste collection/recycling centre. In the European Union there are separate collection systems for used electrical and electronic product.

Please, help us to conserve the environment we live in!



This product complies with the High-Definition Multimedia Interface (HDMI) Specification Adopter Agreement.

The information in this manual was current upon publication. The manufacturer reserves the right to revise and improve his products. Therefore, all specifications are subject to change without prior notice. Manufacturer is not responsible for misprints or typographical errors. Please read this manual carefully before installing and using this unit. Be sure to keep it handy for later reference.

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1. Introduction

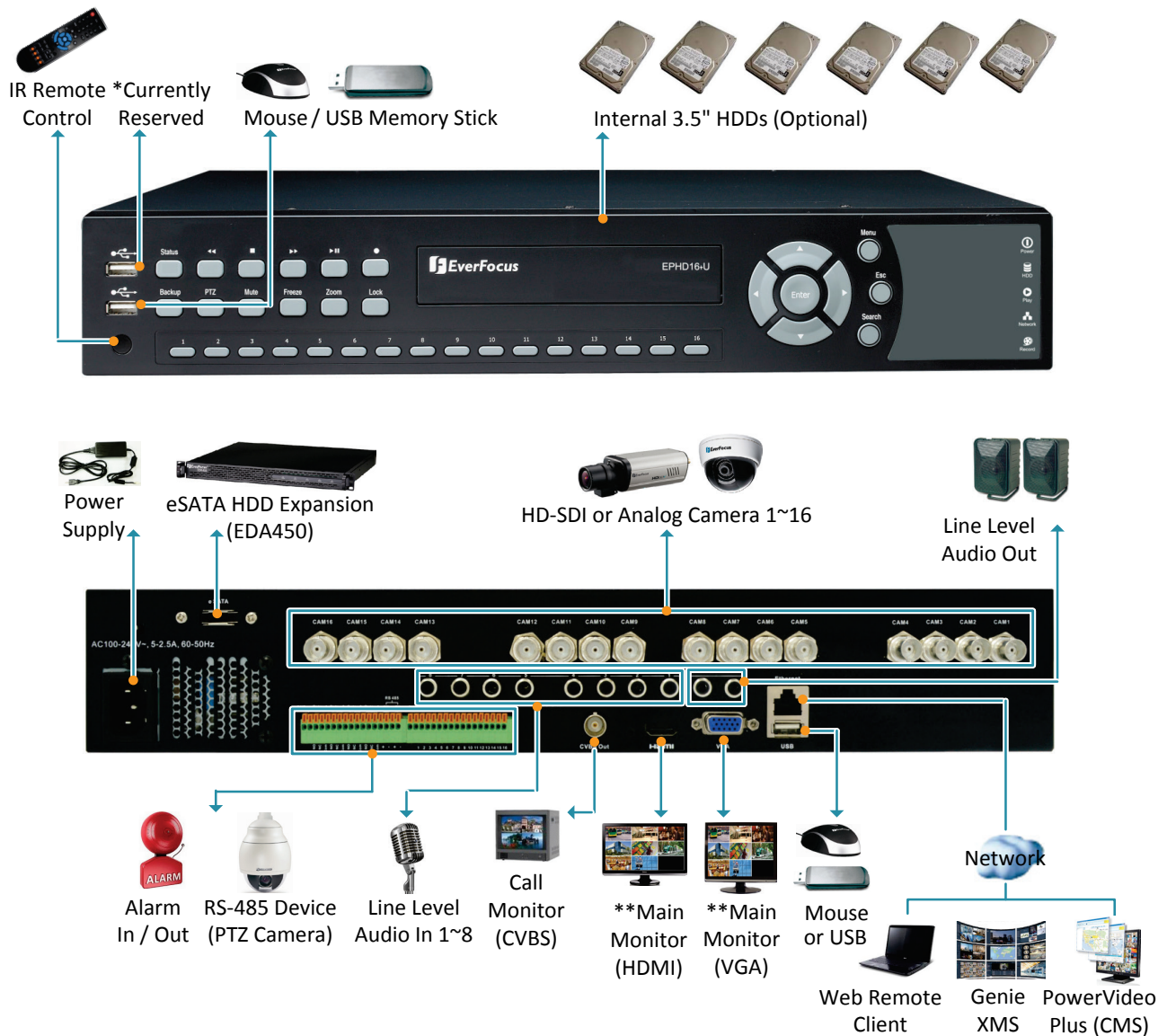
EverFocus EPHD16+U, an embedded Linux-based universal DVR, comes with 16-channel HD-SDI and analog video inputs. This product supports video signals from D1, 960H, 720P to 1080P in one single DVR and also features triple streams for live view, playback and recording. The EPHD16+U supports recording 480 (NTSP) / 400 (PAL) frames per second at 1080P, and can be played back 16 channels of HD-SDI recordings simultaneously.

This DVR supports the pentaplex operation, allowing simultaneously live, recording, playback, archiving, and remote viewing functions, and can be easily operated through local monitor display or the remote web page. Its OSD/UI is designed with the user-friendly Graphical User Interface (GUI) so that operating the DVR becomes more simple and intuitive.

EPHD16+U is equipped with three video outputs (HDMI, CVBS, and VGA) which share the same functions and can be separately configured. The model also supports RS-485 serial interface, 2 USB interfaces and 1 RJ45 (10/100/1000) Base-T Ethernet interface. Other than that, the EPHD16+U can be expanded up to 7 SATA devices (6 SATA HDDs and 1 eSATA), ensure the large capacity of the HD-SDI video recordings.

The EPHD16+U is not only integrated with EverFocus PowerVideo Plus, a central management system (CMS) but also with our newly released Genie XMS, the powerful and flexible surveillance management system. Moreover, while on the go, you can also use EverFocus mobile application, MobileFocus(Plus) with a smartphone, for a continuous surveillance from anywhere at any time.

EPHD16+U System Diagram







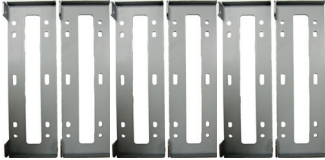




* The upper USB port on the front panel is currently reserved. To use the USB device, please connect to the lower port on the front panel or the USB port on the rear panel.

**The HDMI and VGA port can be all used as the Main monitor outputs and share the identical functionality.

1.1 Features

- 8CH Full HD (1080p) real-time recording and playback
- 1080P, 720P, 960H, D1 real-time recording & playback
- H.264 compression format for enhancing recording capacity and improving network image transmission speed
- Multiple Monitors: Main monitor outputs(HDMI and VGA) / Call monitor outputs (CVBS)
- High bandwidth Full HD recording (400/480fps) with recordable reduced bandwidth stream for mobile or multiplexed viewing applications
- Supports one eSATA port for external HDD
- Supports live monitoring and playback of video from mobile devices via MobileFocus / MobileFocus Plus Apps
- Multiple Control Inputs: mouse / front panel / IR remote controller
- Remote configuration support from built-in web interface
- Gigabit Ethernet interface for remote network viewing and control
- Integration with Genie XMS and PowerVideo Plus (CMS)
- Multi-language support

1.2 Packing List

<ul style="list-style-type: none"> DVR x 1 	<ul style="list-style-type: none"> QIG x 1
<ul style="list-style-type: none"> CD x 1 (Please see Note 3.) 	<ul style="list-style-type: none"> Mouse x 1 
<ul style="list-style-type: none"> Power Cord x 1 	<ul style="list-style-type: none"> SATA Cable x 6 
<ul style="list-style-type: none"> HDD Bracket x 6 	<ul style="list-style-type: none"> Rack Ear x 2 
<ul style="list-style-type: none"> IR Remote Control x 1 	<ul style="list-style-type: none"> AAA Battery x 2 (Please see Note 4.) 
<ul style="list-style-type: none"> Sliver Screw x 24, Washer Head Screw x 12, M3 (φ6.8) Screw x 4 	

Note:

- Equipment configurations and supplied accessories vary by country. Please consult your local EverFocus office or agents for more information. Please also keep the shipping carton for possible future use.
- Contact the shipper if any items appear to have been damaged in the shipping process.
- The CD contains the User Manual and Quick Installation Guide.
- Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
 - Use only two AAA dry cell batteries.
 - Do not dispose of the batteries in a fire as it may explode.

1.3 Optional Accessories

Connect the EDA450 to the EPHD08+ for expanding the storage capacity. Please refer to Figure 1-4, No. 3.

EDA450 (eSATA Storage)



The following items can be used to extend the cable length between the DVR and the camera. Please refer to 2.4.1 Cable Length Extension.

EHA-RPT Repeater



EHA-CRX Converter



EHA-FRX Optical Fiber Receiver

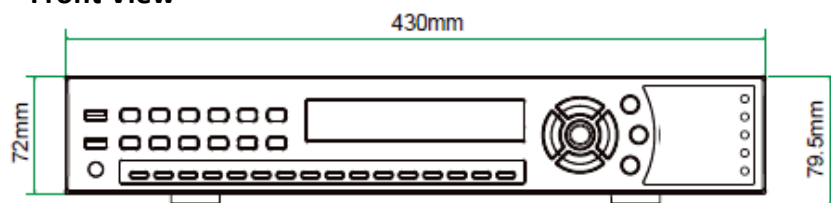


EHA-FTX Optical Fiber Transmitter

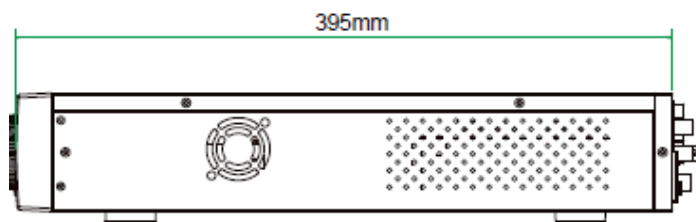


1.4 Dimensions

Front View








Side View



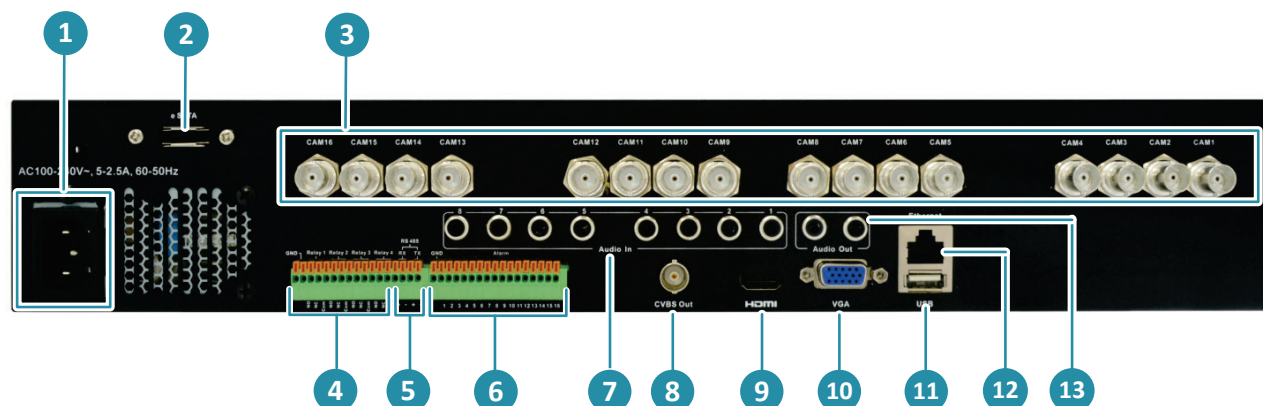
1.5 Front Panel



No.	Name	Description
1	USB2.0 Ports	The USB2.0 port for connecting to a mouse or external storage device. (The upper USB port is currently reserved.)
2	Status	In Live mode, enter the System Information menu.
3	Control Button	 : In Playback mode, press to play rewind.  : In Playback mode, press to stop playback.  : In Playback mode, press to play forward.  : In Playback mode, press to pause / resume playback.  : The default setting of the DVR is continuous recording; however, you can press this to quickly pause or start recording.
4	Arrow Button	Use these arrow buttons to change the Menu settings.
5	Enter	Press to enter.
6	Menu	In Live mode, press to enter the Main Setup Menu.
7	ESC	In Setup mode, press to exit or return to the previous setup menu.
8	LED Indicator	Power: Indicates the power is on. HDD: Indicates the internal Hard Disk is activating. Play: Indicates the DVR is playing back video. Network: Indicates the network is connected. Record: Indicates the DVR is recording.
9	IR Receiver	Receiver for signals from the IR remote control.
10	Backup	In Live mode, press to display the Backup menu.
11	PTZ	Press to display PTZ menu.
12	Mute	In Live mode, press to enable or disable live audio.

13	Freeze	In Live mode, press to freeze the video display.
14	Zoom	In Live mode, press to zoom the display of a channel.
15	Lock	Press to logout or login.
16	Channel Button	Select the full screen channel in live mode. Select the full screen channel in playback.
17	Search	Press to enter the Search Setup menu.

1.6 Rear Panel



No.	Name	Description
1	Power Port	Connects to the 100-240 VAC~ power using the supplied Power Cord.
2	eSATA Port	Connects to an external eSATA storage device. (EDA450)
3	Video Input	Connect HD-SDI or analog cameras using coaxial cables. For coaxial cable requirements, please refer to <i>2.1 Coaxial Cable Preparation</i> .
4	Alarm Out	Connects to 4 alarm output device.
5	RS-485 Port	Connects to the RS-485 device or PTZ camera.
6	Alarm Input	Connects up to 16 alarm inputs.
7	Audio Input (RCA)	Connects to the audio input devices such as microphones. Note that the microphone with a (built-in) amplifier and external power supply is required.
8	Call Monitor Port (CVBS/BNC)	Connects to the Call monitor using a CVBS cable. Please refer to <i>2.4.2 Monitor Connection</i> .
9	Main Monitor Port (HDMI)	Connects to the Main monitor using a HDMI cable. Please refer to <i>2.4.2 Monitor Connection</i> .
10	Main Monitor Port (VGA)	Connects to the Main monitor using a VGA cable. Please refer to <i>2.4.2 Monitor Connection</i> .
11	USB2.0 Port	The USB2.0 port for connecting to a mouse or external storage device.
12	Ethernet	Connects to the Network.
13	Audio Output (RCA)	Connects to the audio output devices, such as speakers. Note that the speaker with a (built-in) amplifier and external power supply are required.

2. Installation

2.1 Coaxial Cable Preparation

EverFocus HD-SDI technology is mostly based on the SMPTE-292M standard, which defines HD-SDI (High Definition – Serial Digital Interface) video transmission. The HD-SDI technology requires higher frequency than traditional CCTV technology. The table below listed the supported coaxial cable types for EverFocus' HD-SDI DVR.

Coaxial Cable Requirement

Attenuation at 1 GHz: < 32 dB per 100 m (328 ft)

Return Loss attenuation: > 20 dB

Impedance: 75 Ω

Coaxial Cable Type	Attenuation in dB at 1 GHz per 100 m / 328 ft	Max. Cable Distance
RG-59	24 ~ 40 dB	70 ~ 160 m / 230 ~ 520 ft
RG-6	15 ~ 35 dB	100 ~ 190 m / 330 ~ 620 ft
RG-11, CATV-Lowloss Cables	8 ~ 16 dB	180 ~ <250 m / 590 ~ <820 ft
Note: Low quality cable may produce higher attenuation.		

The standard RG-59 cables are originally designed for lower frequencies. However, with EverFocus' HD-SDI technology, you can still use the standard RG-59 cable for distances over 100 m / 330 ft. The RG-59 cables with high quality and low loss allow distances up to 160 m / 520 ft. The RG-6 or RG-11 cables are the best use for longer distance connection.

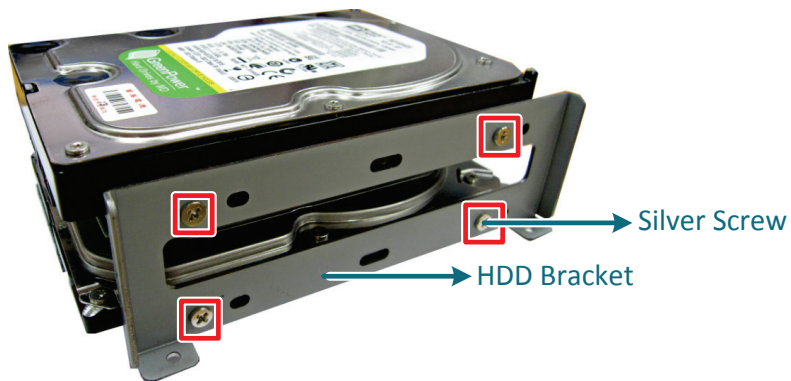
2.2 Hard Disk Installation

You can optionally install six 3.5" HDDs inside the DVR for recording videos.

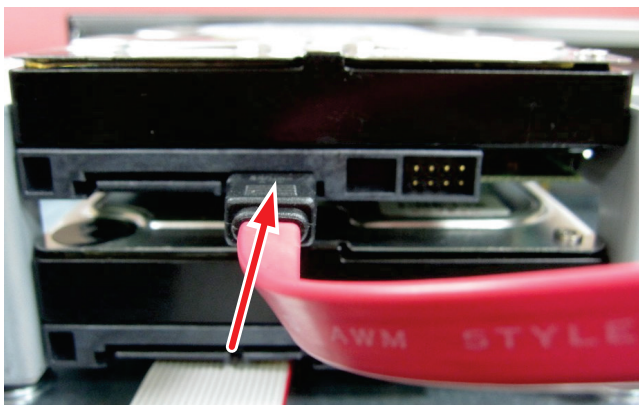
1. Make sure the DVR is power-off.
2. Unscrew the two housing screws on the back panel of the DVR.



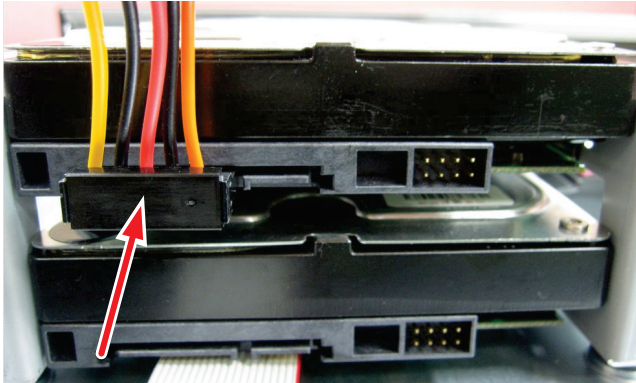
3. Screw two HDD brackets on both sides of the HDDs using the Silver Screws.



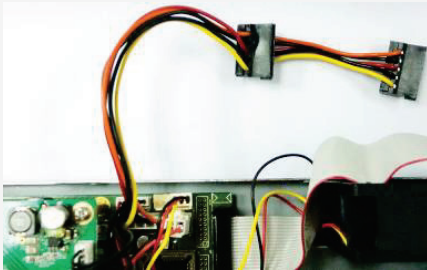
4. Use the SATA Cable, and connect one end to the SATA port on the small PCB inside the DVR, and the other end to the SATA port on the HDD.



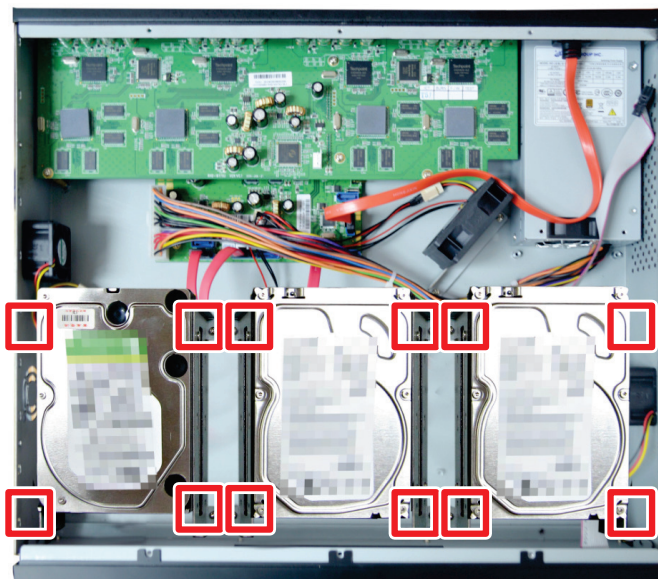
5. Connect the internal power cable to the HDD.



Note: The internal power cable is connected to the Main board inside the DVR. The power cable features two connectors, which can be used to connect to two HDDs.



6. Screw the HDDs with the brackets inside the DVR using the Washer Head Screws.



7. Screw back the housing to the NVR.

2.2.1 Hard Disk Compatibility List

Please use the hard disk models recommended in the list below to ensure your hard disks will be compatible.

SATA Hard Disk	Model	Capacity
Seagate	Constellation ES.3 SATA3 ST4000NM0033	4TB
	Constellation CS SED SATA3 T3000NC000	3TB
	CE-Video SATA3 / ST3500312CS	500GB
	CE-Video SATA3 / ST1000VM002	1TB
	CE-Video SATA3 / ST2000VM003	2TB
	CE-Video SATA3 / ST3000VM002	3TB
	CE-Video SATA3 / ST4000VM000	4TB
	ST4000VX000	4TB
	SV35 SATA6 7200/ ST1000VX000	1TB
	SV35 SATA6 7200/ ST2000VX000	2TB
	SV35 SATA6 7200/ ST3000VX000	3TB
	Constellation CS SATA3 7200 / ST1000NC000	1TB
	Constellation CS SATA3 7200 / ST3000NC000	3TB
	CE-Video SATA6 5900RPM / ST1000VM002	1TB
	CE-Video SATA6 5900RPM / ST2000VM003	2TB
	SV35 SATA3 7200/ST3000VX000	3TB
	SV35 SATA3 7200/ST2000VX000	2TB
	SV35 SATA3 7200/ST1000VX000	1TB
	CE-Video SATA3 / ST2000VM003	2TB
	CE-Video SATA3 / ST1000VM002	1TB
Western Digital	WD40PURX-64GVNYO	4TB
	WD30PURX-64P6ZY0	3TB
	WD20PURX-64P6ZY0	2TB
	WD10PURX-64D85Y0	1TB
	WD10EURX SATA3	1TB
	WD30EURS SATA2	3TB
	WD10EVVS SATA	1TB
	WD20EFRX	2TB
	WD30EFRX	3TB
	WD4001FAEX	4TB
	WD RE SATA/64MB Cache WD4000FYYZ	4TB

Note: If using two or more hard disks, please choose the hard disks with the same capacity.

2.3 Rack Mount

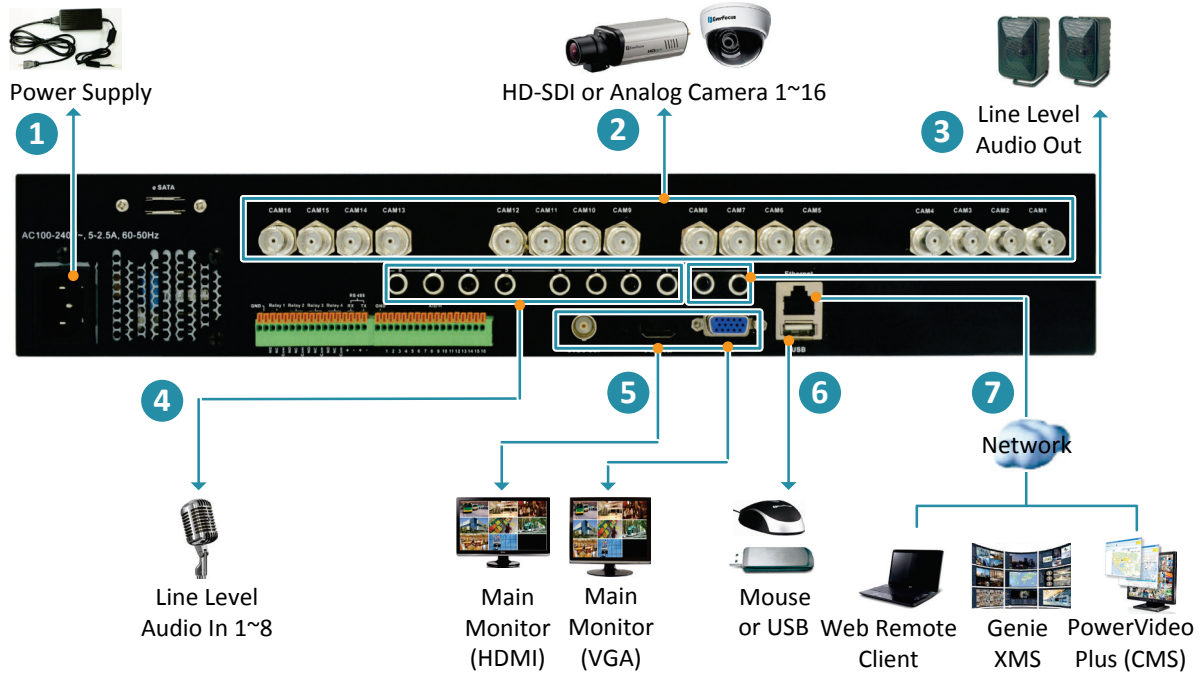
To install rack ears on the DVR:

1. Unscrew the four M3 ($\phi 6.8$) screws on both side of the DVR.
2. Use the supplied two rack ears and the above screws for rack mount installation on both side.



2.4 Basic Connection

The instructions below the figure describe the basic connection for the EPHD16+U.



1. Using the supplied Power Cord, connect one end to the 100-240 VAC~ port on the DVR and the other end to the 100-240 VAC~ power outlet.

Note: Please ensure to connect the internal power cables to the internal HDDs before powering on the DVR.

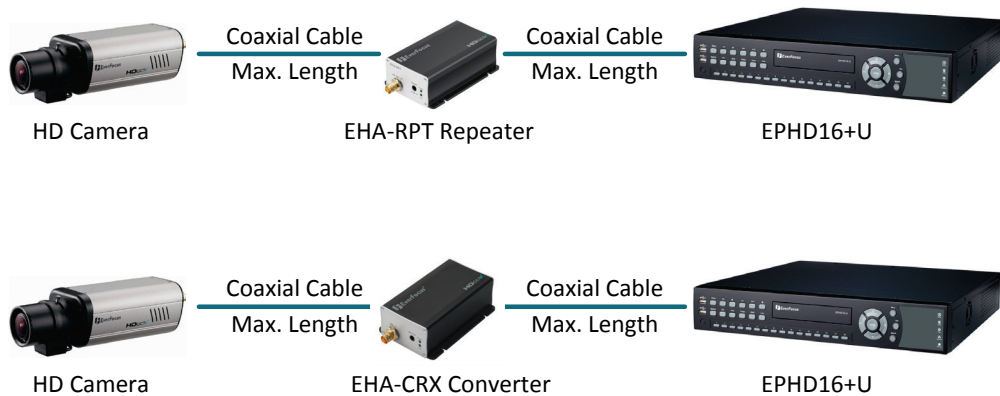
2. Connect the cameras to the DVR using the coaxial cables. For details on coaxial cable requirements, please refer to *2.4.1 Cable Length Extension*.
3. To listen to audio of video source, connect speakers to the Audio Out port. Note that speaker with a (built-in) amplifier and external power are required.
4. Connect the line level audio input devices to the DVR. Note that the audio input devices, such as microphones, are required to have a (built-in) amplifier and external power supply.
5. To view videos, connect a monitor to the HDMI or VGA port using the HDMI or VGA cable supplied by the monitor manufacturer.
6. Optionally connect a mouse to the DVR to control the system. You can also control the system using the supplied IR Remote Control or the control buttons on the front panel.
7. Use a standard RJ-45 cable to connect the DVR to the network for remote viewing or using EverFocus surveillance system (Genie XMS or PowerVideo Plus).

2.4.1 Cable Length Extension

You can optionally use EverFocus' EHA-RPT repeater, EHA-CRX converter or EHA-FTX/FRX HD-SDI to fiber converter to extend the cable length between the DVR and camera.

Using the EHA-RPT Repeater / EHA-CRX Converter

The maximum distance between camera and DVR can be doubled by using an EHA-RPT repeater or EHA-CRX converter.



Using the EHA-FTX/FRX HD-SDI to Optical Fiber Converter

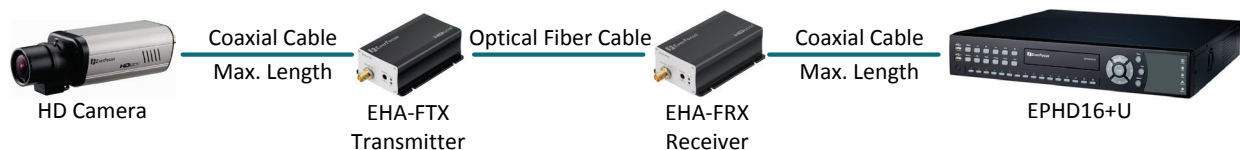
The maximum distance between camera and DVR can be extended by using optical fiber cable. You can optionally use EverFocus' optical fiber transmitter / receiver, EHA-FTX and EHA-FRX, to extend the distance. Two modes are available for EverFocus' transmitters and receivers: multi-mode and single-mode.

EHA-FTX-MM: Multi-mode optical fiber transmitter, max. transmission distance 500 m

EHA-FTX-SM: Single-mode optical fiber transmitter, max. transmission distance 21 Km

EHA-RTX-MM: Multi-mode optical fiber receiver, max. transmission distance 500 m

EHA-RTX-SM: Single-mode optical fiber receiver, max. transmission distance 21 Km

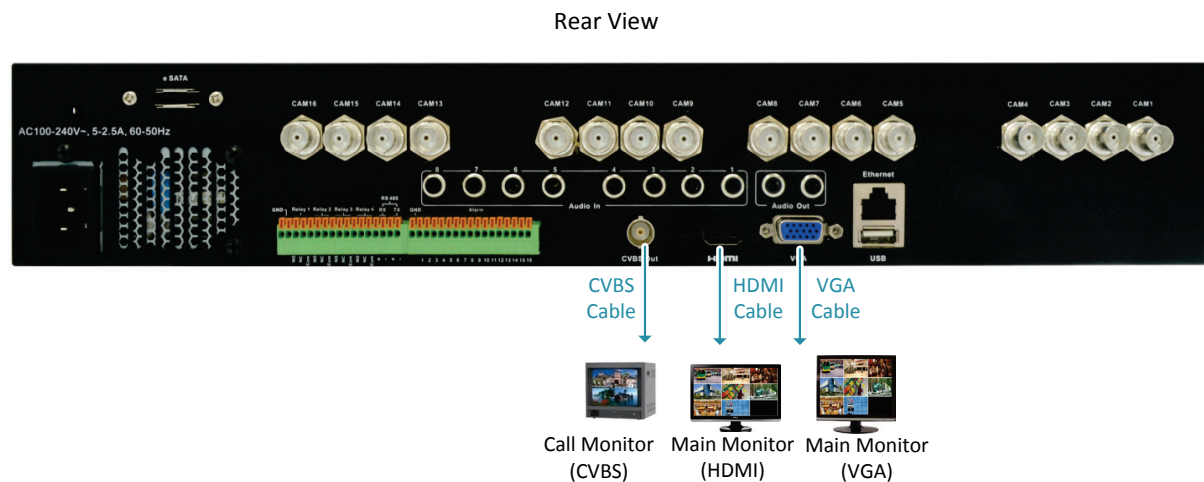


2.4.2 Monitor Connection

Connect the monitor to the CVBS, HDMI or VGA port on the rear panel of the DVR. The EPHD16+U DVR provides 2 main monitor outputs with identical functionality - VGA and HDMI, and one call monitor output - CVBS.

Note that the Call Monitor (CVBS) can only be used to display camera views. The functions including the layout, channel switching, icon display, sequencing mode of the Call Monitor can only be configured on the Main Monitor.

Both outputs can be used simultaneously and deliver full HD output resolution (1920x1080, progressive, 60 Hz. vert., 68 KHz hor.). Resolution selected higher than the monitor can support may cause the screen to black out after rebooting the DVR. Please refer to 6.6.1 *Monitor OSD*.



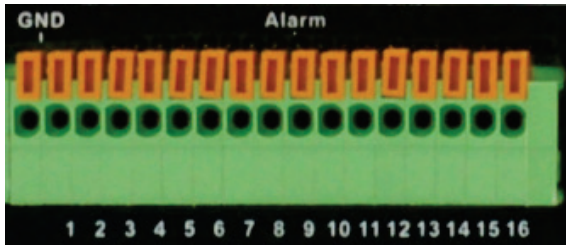
Note:

1. The connected monitors' specifications must comply with the resolution requirements.
2. Do not exceed the max. HDMI cable length of 15 meters. The standard HDMI cables can support cable length up to 3 meters. For longer distances, such as 15 meters, it is highly recommended to use high quality HDMI cables.

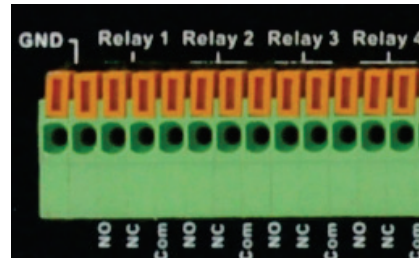
2.4.3 Alarm I / O

The DVR provides 16 alarm inputs and 4 alarm outputs. Please refer to the table below for PIN assignment.

Alarm In:



Alarm Out:



Alarm Input

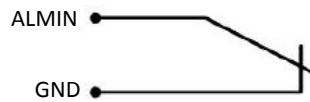
No.	Description
1-16	ALM_IN1 – ALM_IN16
G	GND

Alarm Input Contacts

This DVR provides one alarm input per camera. All inputs are programmable N.O. (Normal Open) or N.C. (Normal Closed). All settings are programmed in the ALARM / Event menu.



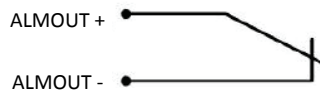
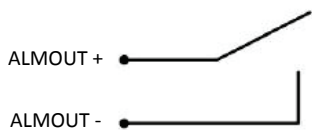
Alarm Input with N.O. contact in idle state



Alarm Input with N.C. contact in idle state

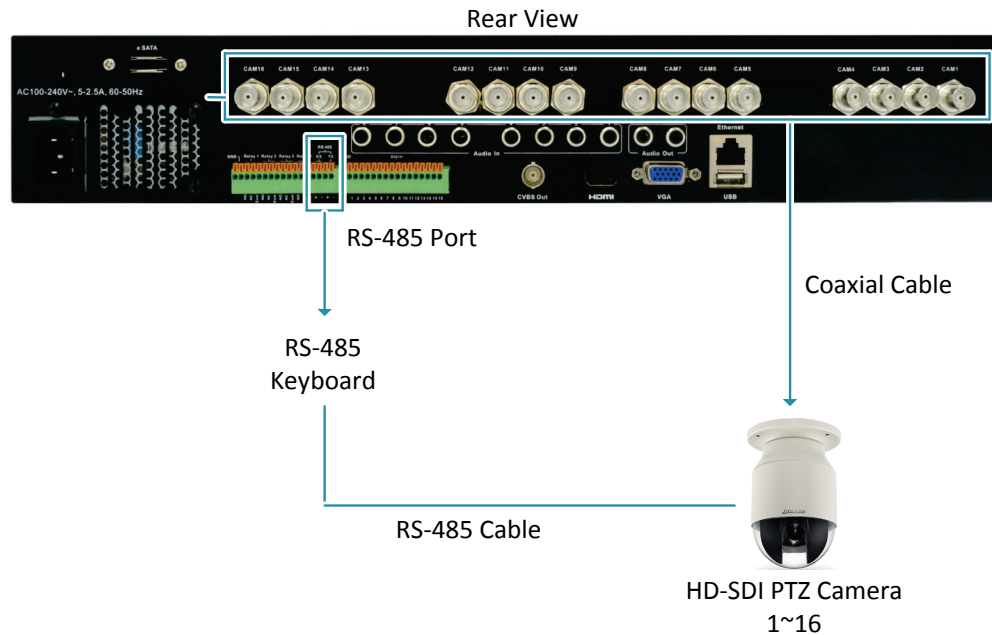
Alarm Output Contacts

The relay output provides either Normally Open or Normally Closed dry contacts.



2.4.4 RS-485 Port

The RS-485 port, located on the rear panel of the DVR, can be used to connect to an RS-485 keyboard for controlling PTZ cameras or simply connect to a PTZ camera. For details on the RS-485 configurations on the DVR, please refer to *6.9.5 I/O Control*.



2.5 Turning On / Off the Power

Before powering on the DVR, please make sure the internal HDDs have been installed properly. Once you have completed the basic cable connections, you are ready to turn on the DVR.

To turn on the power, connect the supplied Power Cord to the power outlet. All of the LED indicators on the front panel will light up. The DVR will automatically run an internal process, when the process is complete, the LED indicators will turn off, and the POWER LED will remain light up in green. And then you can start operating the DVR.

To turn off the power, just simply unplug the Power Cord.

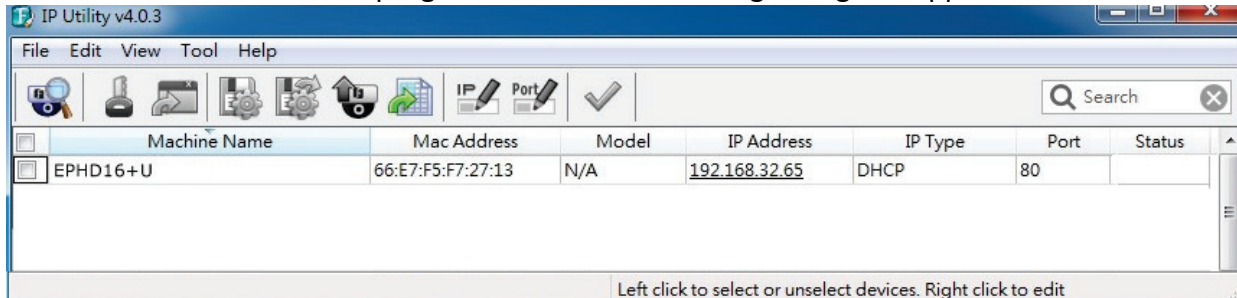
2.6 Checking the Dynamic IP Address

You can look up the IP address and access the Web interface of the DVR using the **IP Utility (IPU)** program, which can be downloaded from EverFocus' Website:


http://www.everfocus.com/HQ/Support/DownloadCenter_p1.aspx. Please connect the DVR in the same LAN of your computer.

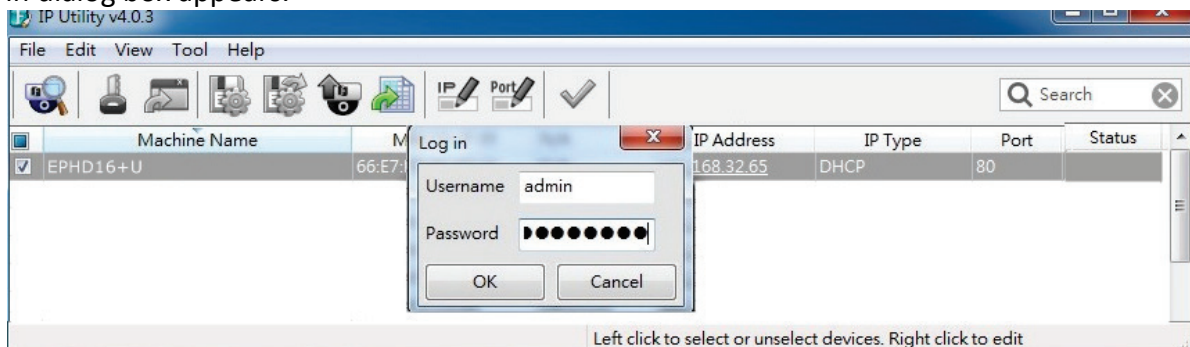


1. Install and then start the IPU program . The following dialog box appears.



2. IPU will automatically search the IP devices connected in the LAN. The default network values of the IP devices will be displayed. By default, the network protocol of the IP device is **DHCP**.
3. To optionally configure the Machine Name, IP Address, IP Type or Port Number using the IPU:

- a. Log in the DVR by checking the desired model and then click the **Log in**  icon. The Log in dialog box appears.




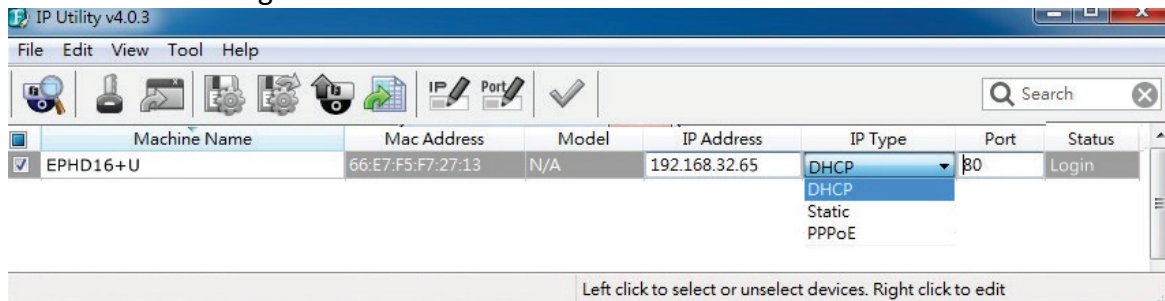
- b. Type the Username and Password. Click the **OK** button, the status of the selected camera will display **Login**.

Machine Name	Mac Address	Model	IP Address	IP Type	Port	Status
EPHD16+U	66:E7:F5:F7:27:13	N/A	192.168.32.65	DHCP	80	Login

Note:

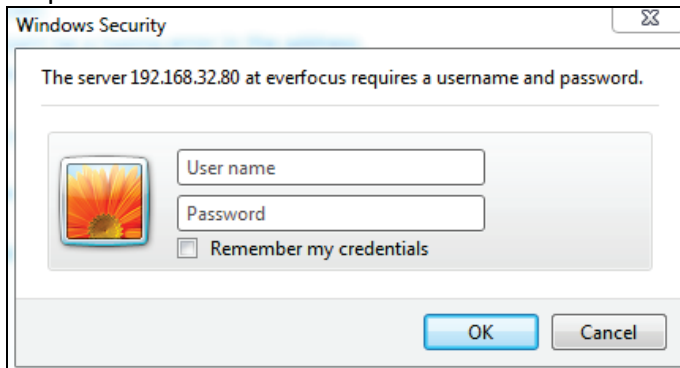
1. The default user ID is **admin** and the default password is **11111111**.
2. If you select more than one DVRs that have the same user ID / password, you will be able to log in several DVRs at once.

- c. Right click the column to configure the setting. Click **Apply Changes**  button to apply and save the settings.



Note: Most networks uses DHCP to assign IP address, if you are unsure of your network settings, please consult your network administrators for configuration details.

4. To access to the Live View window, double click the IP address of the desired device, the login window pops up. Type the user ID and password to log in. By default, the user ID is **admin** and the password is **11111111**.

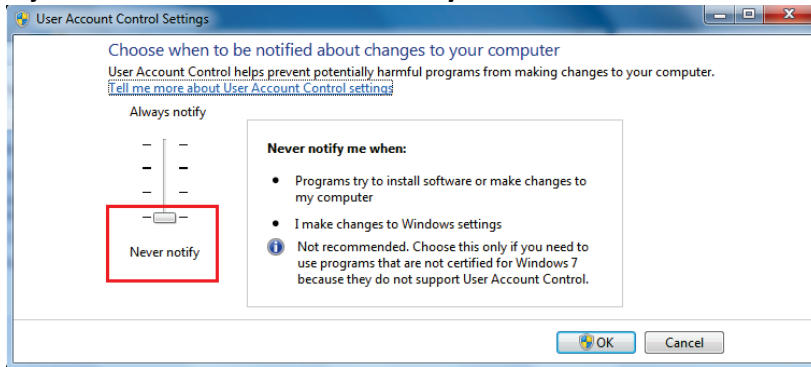


5. When using the IP Utility to remotely access to the DVR, it will open the Web interface using the **IE browser**, and the following dialog may appear for the first time. Please click “**Allow**” to run the add-on.

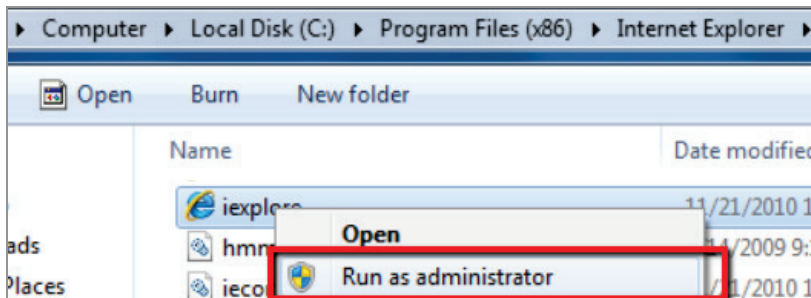


6. You may need to turn User Account Control off if you still can't see the Remote Live View, please see the step below.

7. On the computer, click Start > Control Panel > System and Security > Action Center (click Change User Account Control Settings), the **User Account Control Settings** window appears. Adjust the slide bar to **Never Notify** and then click **OK**. Restart your computer if requested.



8. If your PC or laptop is running with Windows 8 or 8.1, it's required to run the browser as administrator when first entering the remote web page of the device. Go to **C:\Program Files (x86)\Internet Explorer**, right-click the browser and then click **Run as administrator**.



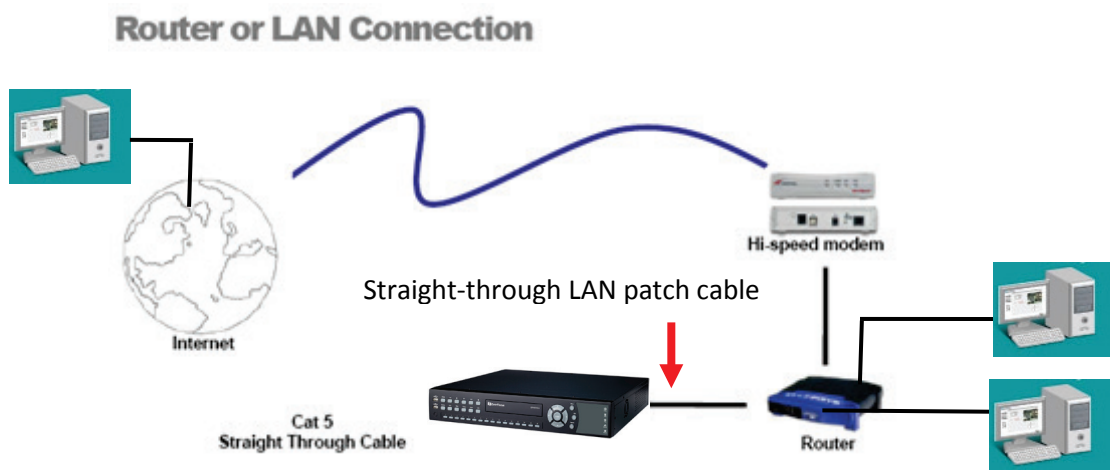
9. Now you will be able to see the remote live page.

2.7 Connecting the DVR to the Network

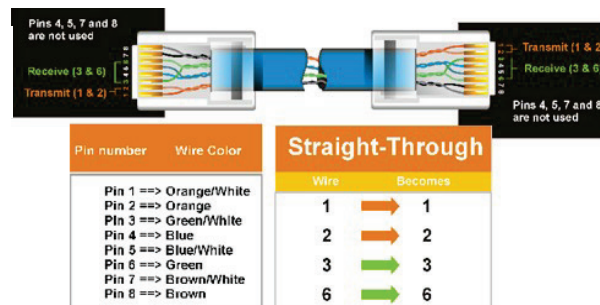
There are three methods to connect the DVR to the network: **Router or LAN Connection**, **Direct High-Speed Connection** and **One-to-One Connection**. For more information of the network, please refer to *Appendix A. Network Overview*.

2.7.1 Router or LAN Connection

This is the most common connection in which the DVR is connected to a router and allows multiple users on and off site to see the DVR on a LAN/WAN (Internet). The DVR must be assigned an IP address that is compatible with its LAN. By setting up port forwarding on the router, you can remotely access the cameras from outside of the LAN via the Internet. To remotely access the Web interface, please refer to *7. Remote Access to the DVR*. To set up port forwarding, please consult the manual of the router or refer to *Appendix B: Linksys & D-Link Port Forwarding*.



Right: Pinout of a straight-through cable.

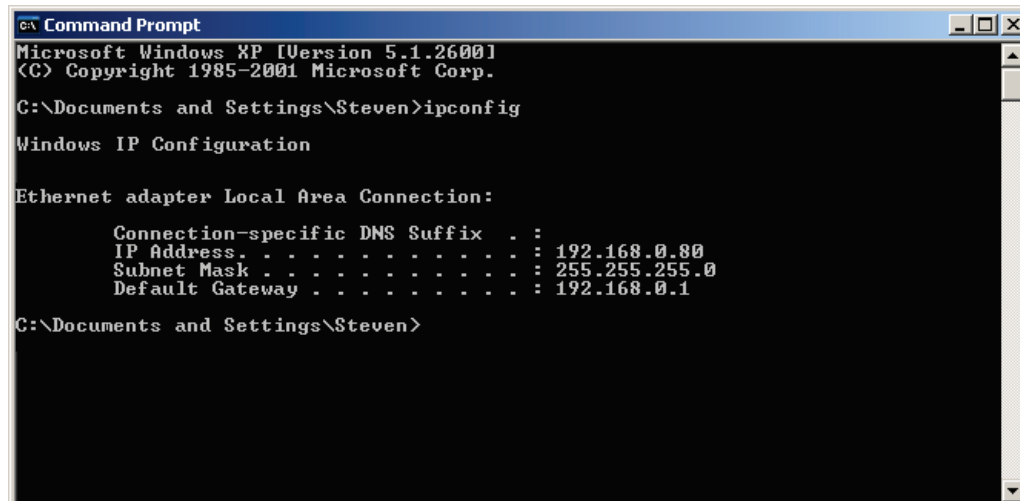


Connection Procedure:

- The First step is to purchase or make a straight through cable. We recommend purchasing one if you have never made a straight through cable. Please remember you can not use a cross-over network cable for this application.
- Once you have a straight through cable, plug one end into the LAN port on the back of the recorder and the other into the router.
- Log into the EverFocus DVR menu and go to the Network Setting Menu.
- To let the router automatically assign an address:
 - ◆ Set the Network Type to DHCP. Make sure to write down the IP address and the Gateway.
 - ◆ Exit from the Menu to save settings.

To manually assign an address:

- ◆ Go to a computer connected on the same network as the DVR.
- ◆ Click on the Start button and choose Run.
If using Windows Vista, choose Search instead.
- ◆ Type “command” and click on OK.
In Vista, you will need to double-click on the “Command Prompt” file to open it.
- ◆ In the DOS prompt, type “ipconfig” and press Enter.
- ◆ The network information will be displayed on a screen similar to the one below.
In Windows Vista, look for the information that says “IP v4”.



```

c:\ Command Prompt
Microsoft Windows XP [Version 5.1.2600.1
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Steven>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . . . :
    IP Address. . . . .               : 192.168.0.80
    Subnet Mask . . . . .             : 255.255.255.0
    Default Gateway . . . . .         : 192.168.0.1

C:\Documents and Settings\Steven>
  
```

- ◆ Take the values for Subnet Mask and Default Gateway and input them into the DVR; these values should be exactly the same in both devices. However, you should

change the last number of the IP address. For example, if the IP address of the computer is 192.168.2.101, the DVR's IP address should be 192.168.2.50.

- To access the DVR from a computer simply open Internet Explorer and in the address bar type:

http:// (IP address of the DVR)

Note: The DVR's IP address will only work at the location of the DVR. To connect from a different location over the Internet, see below.

To set the DVR for Internet Connection through router:

- The next step is to open ports within your router. Log into the router using a PC and open the following ports.
 - ◆ Ports to open: 80
 - ◆ If your Internet service provider blocks port 80, you can change it to a different port in the DVR's Network Menu Setup; open/forward that port instead.
 - ◆ If you are using a Linksys or D-Link router, see Chapter 8 for basic support on setting up ports. For any other router, you will need to contact the manufacturer for support.

- To access the DVR from a computer simply open Internet Explorer and in the address bar type:

http:// (the IP address given by your internet service provider)

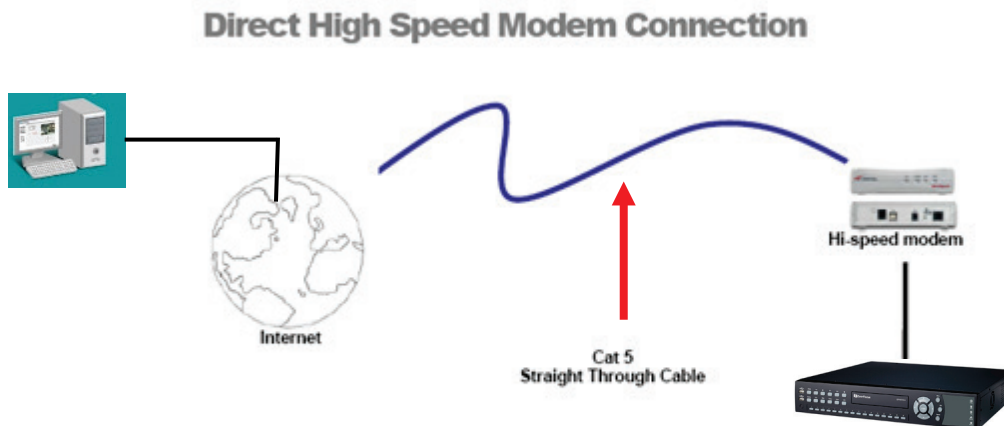
Note: If you changed to a different port other than 80, you will need to include this at the end of the IP address:

http:// (the IP address given by your internet service provider):port number

- If you have a WAN Dynamic IP address and have opened the ports, go to *6.7.3 DDNS Setup* to configure the DDNS settings.

2.7.2 Direct High-Speed Connection

In a Direct High-Speed Connection, the DVR connects directly to a modem without the need for a router. You need to set the static or dynamic WAN IP address assigned by your ISP (Internet Service Provider) in the DVR's configuration web pages. To access the DVR, just type "http://xxx", where xxx is the IP address given by your ISP. If you have a dynamic IP address, this connection may require that you use DDNS for a reliable connection.



Connection Procedure:

- The first step is to purchase or make a straight through cable. We recommend purchasing one if you have never made a straight through cable. Please remember you can not use a cross-over network cable for this application
- Once you have a straight through cable plug one end into the LAN port on the back of the recorder and the other into the high speed modem.
- Log into the EverFocus DVR menu and go to the Network Setting Menu.
- Input the Static IP address, the Subnet Mask, and the Gateway that you obtained from the internet service provider.

Note: If you have a dynamic IP address, you can set the DVR to DHCP to automatically detect the network settings. Therefore, it can use a dynamic IP address.

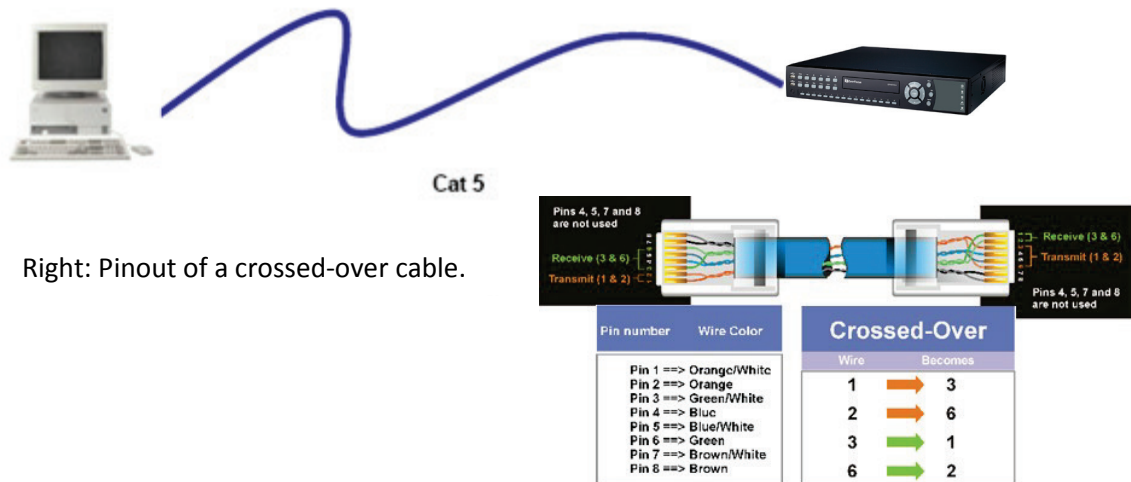
- Exit from the DVR's Menu to save the settings.
- To access the DVR from a computer, open Internet Explorer and in the address bar type: http:// (IP address given by your internet service provider)

Note: When using this type of connection, only one device can be connected to the modem at a time. You will need to use a computer at a different location to test the connection s.

2.7.3 One-to-One Connection

You can connect directly without using a switch, router or modem. However, only the PC connected to the DVR will be able to view the DVR. You will also have to manually assign a compatible IP address to both the computer and the DVR. Unless the PC has another network connection, the DVR will be the only network device visible to the PC. See the diagram below:

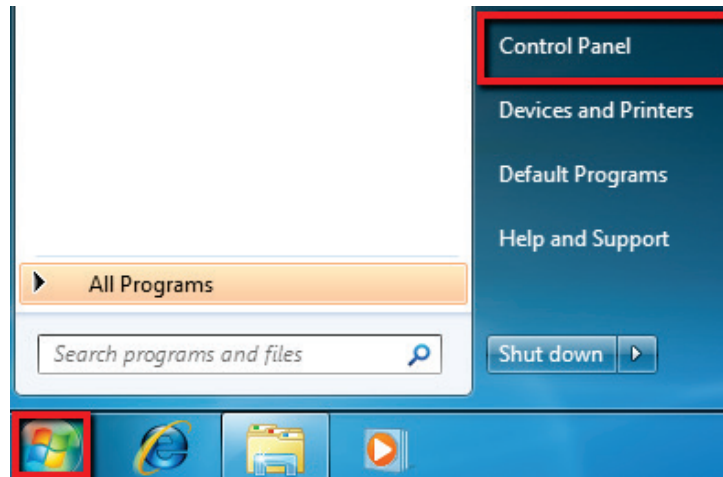
Simple One to One Connection



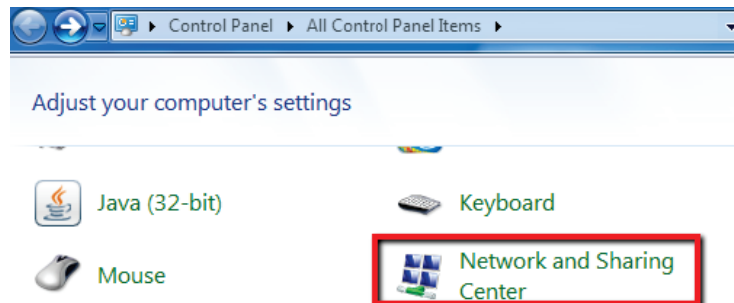
Connection Procedure:

- The First step is to purchase or make a cross-over cable. We recommend purchasing one if you have never made a cross-over cable. Please remember you can not use a straight through network cable for this application.
- Once you have a cross-over cable, plug one end into the LAN port on the back of the DVR and the other into the network card on the back of the computer.
- Log into the EverFocus DVR menu and go to the Network Setting Menu.
- You must use the Static IP option for this type of connection.
- Assign an IP of 192.168.001.003, a Subnet Mask of 255.255.255.000, and a Gateway of 192.168.001.001. You can ignore DNS Server.
- The next step is to set the computer's network settings to match those of the DVR. You will need Administrator privileges on your Windows machine to do this.
- To assign a fixed IP address in Windows 2000/XP, follow the instructions below:

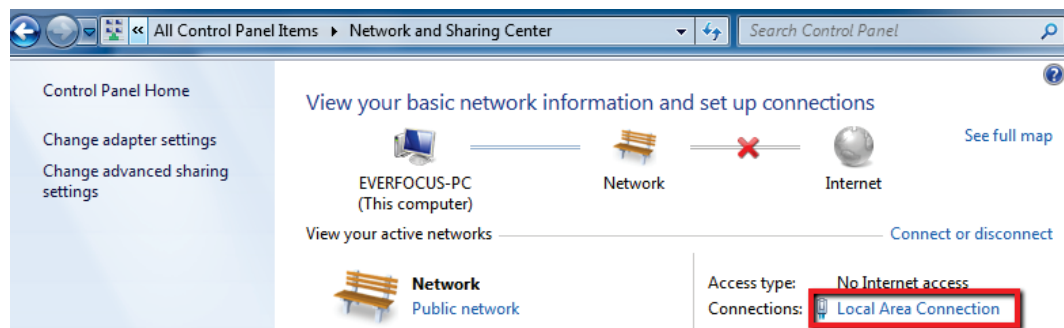
- ◆ Go to **Start**. Double-click on **Control Panel**.



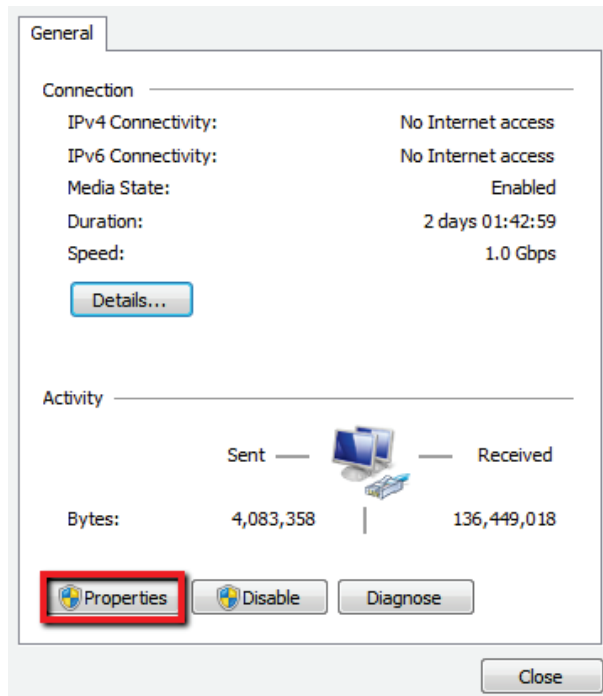
- ◆ Click **Network and Sharing Center**.



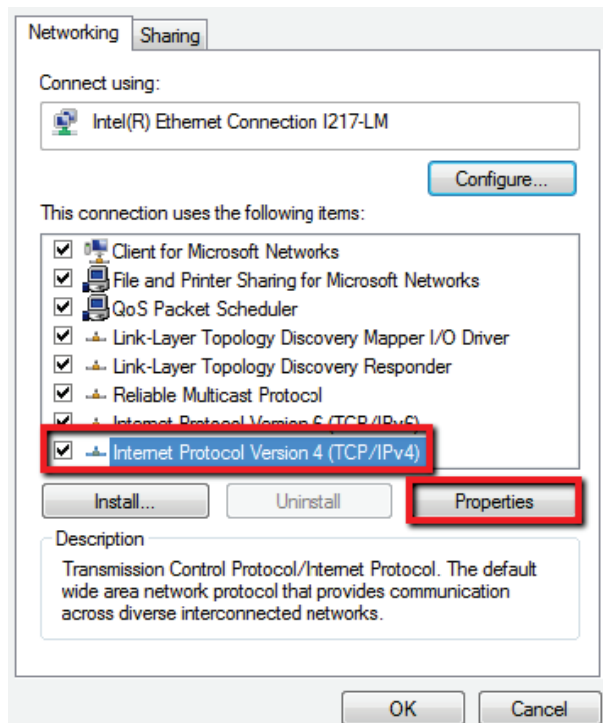
- ◆ Click **Local Area Connection**.



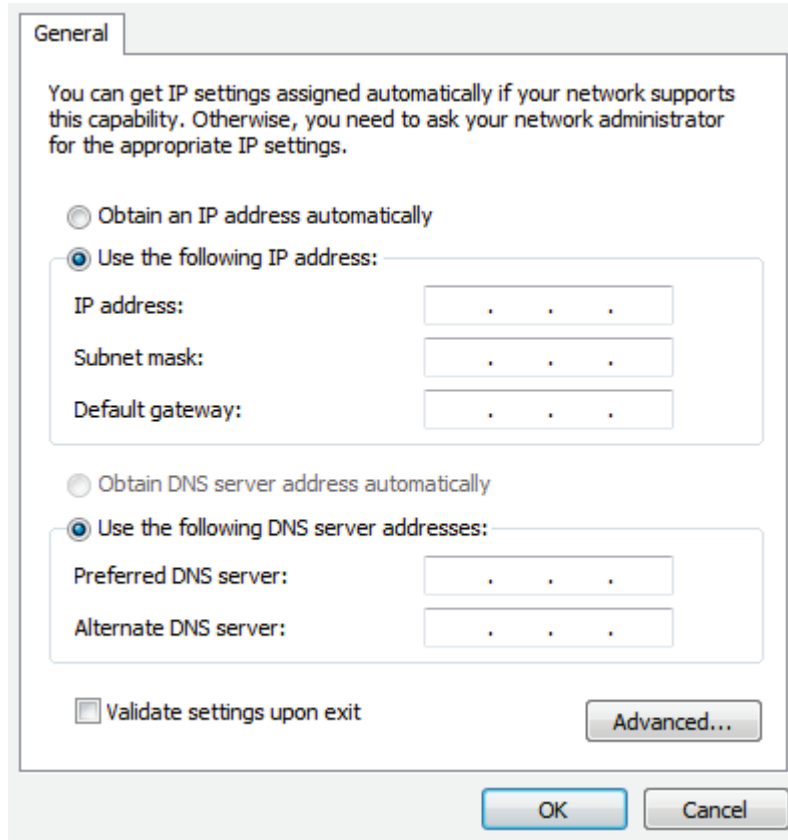
- ◆ Click **Properties**.



- ◆ Click on **Internet Protocol Version 4 (TCP/IPv4)** and then click **Properties**.



- ◆ Select **Use the following IP address**. Assign an IP address of 192.168.1.2, a Subnet Mask of 255.255.255.0, and a Default Gateway of 192.168.1.1 and then click **OK**.



General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address:

Subnet mask:

Default gateway:

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server:

Alternate DNS server:

☐ Validate settings upon exit

Advanced...

OK Cancel

- ◆ Restart both of the computer and the DVR.
- ◆ To access the DVR from the computer, simply open Internet Explorer and in the address bar type: http://192.168.1.3

Chapter 3

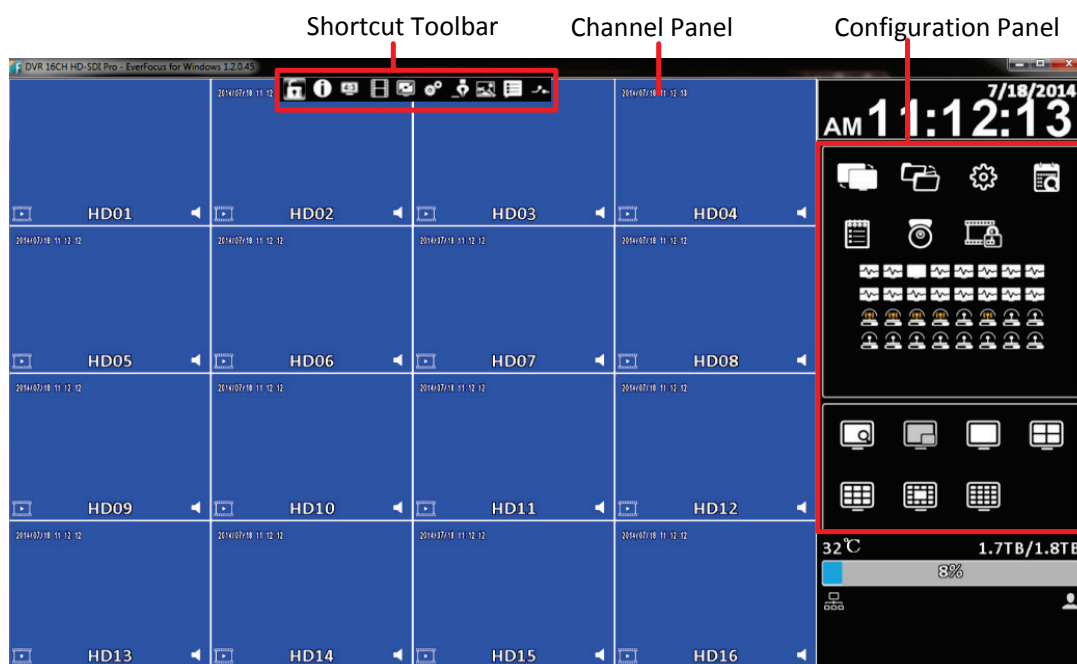
3. Live Operations

In the live mode, you may monitor all channels of the DVR, listen to live audio from cameras, and configure the DVR. The DVR can support 4:3 and 16:9 aspect ratios of the screen layout. There is a shortcut toolbar on the top of the screen for users to logout, to access system information, to change screen aspect ratio, to make the DVR window fullscreen, and to configure network stream quality. In the 16:9 mode, there are two major panes, the configuration menu and channel pane for video of channels. In the 4:3 mode, a user may access the configuration pane by right-clicking the mouse on the screen splits and a channel status pane will appear when the mouse cursor moves to the bottom of the screen.

Note: The number of channels, sensors, relays, and split screen, and the resolution in the following figures are for reference. The actual screen output may be different by different models.

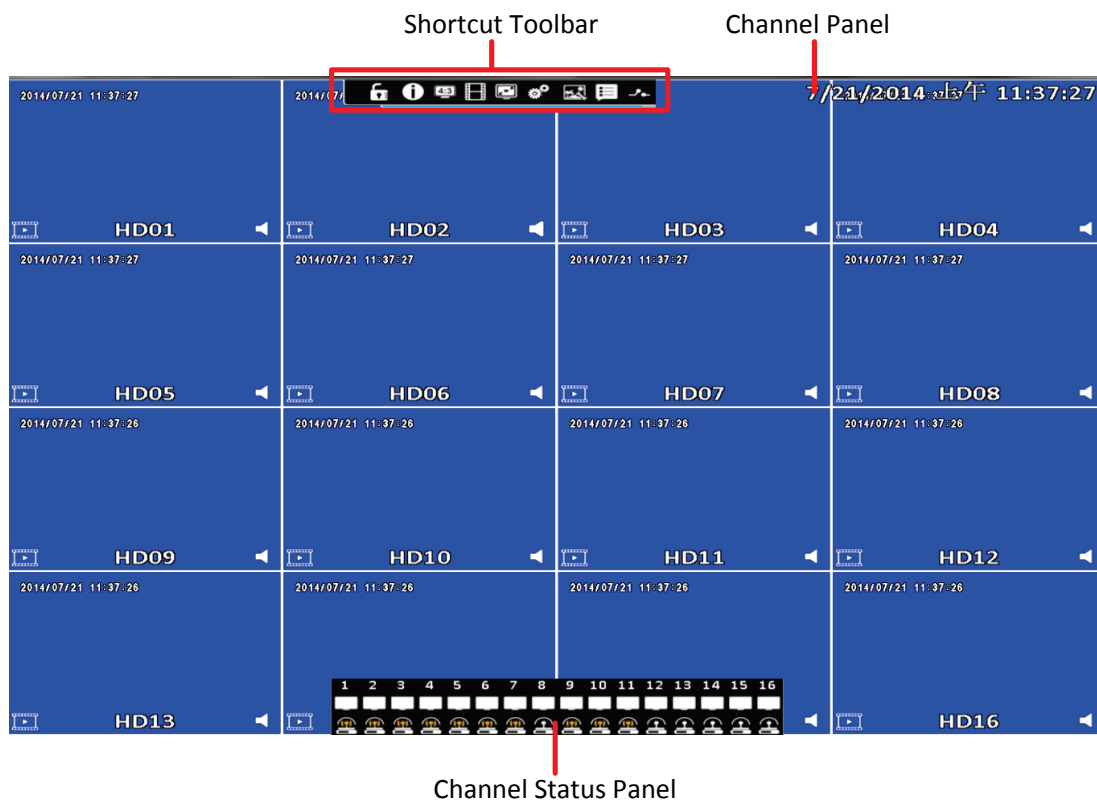
3.1 Operation Screen

16:9 Display:


















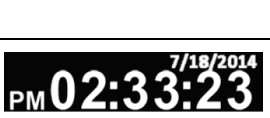
4:3 Display:

To bring up the **Configuration Panel**, you need to right-click the screen.



3.2 Status Icon Description in Live Mode

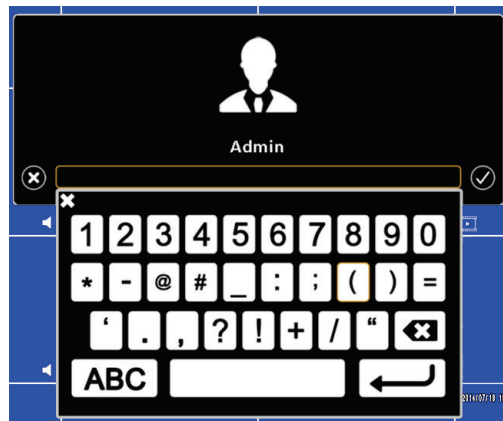
Icon	Description
	Recording of a channel is activated.
	Live audio of a channel is activated.
	Live audio of a channel is not activated.
	Video signal of a channel is available.
	Event recording of a channel is active in this channel.
	Motion detection of a channel is triggered.
	Alarm is triggered of a channel. The number of available alarms depends on models.
	Alarm is not triggered of a channel.

	The channel video-loss alarm of a channel has been triggered.
	USB device has been detected.
	DVD device has been detected.
	Network connection is available.
	Network connection is not available.
	Displays the current user.
	Displays the current disk space and usage. (The figure shows 99% of the disk space has been used, and 1% is available.). The current disk temperature is also shown.
	Each channel shows the time stamp for local playback, remote live, remote playback, and backup-video.






4. Main Menu Setup

To enter the main menu and set up a DVR, log-in account and user password are required.



The default password of the administrator is “11111111”. Please check the “Account Setup” for management of other log-in users.



OSD Keyboard:

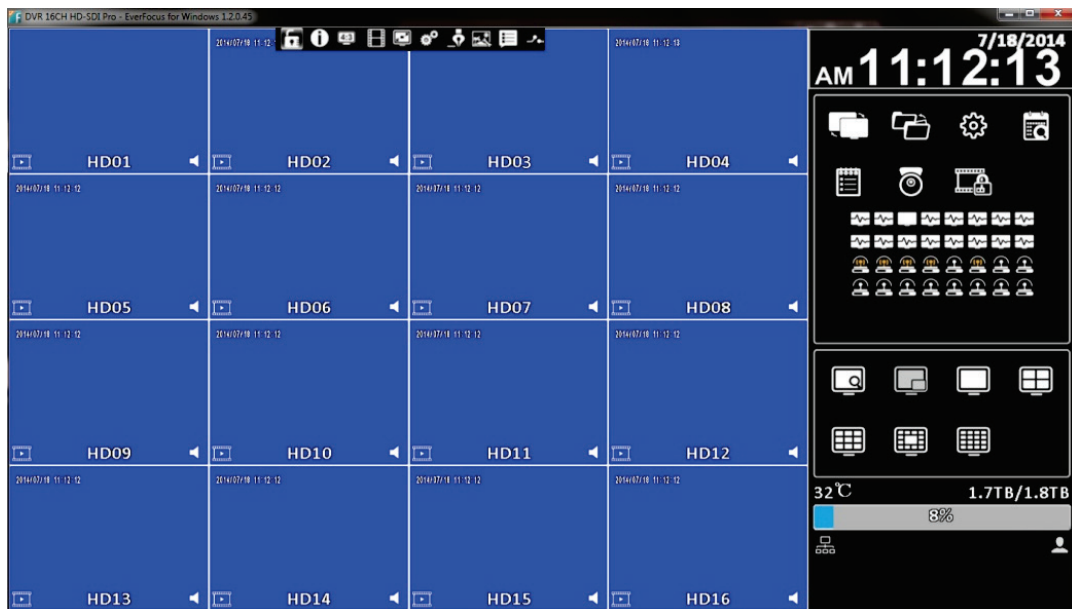
Icon	Description
	Switch between capital letters and lower-case letters.
	Switch between numbers and letters.
	Delete the last character.
	Enter to verify the password. The DVR shows the setup menu, if the password is accepted.
	Space key.

Remote Control Key:

Button	Description
	Switch to previous or next options of an item
	Switch to different items
MENU	Save setup and back to the LIVE mode
ESC	Back to upper level of menu without saving
ENTER	Enter the menu, or display virtual keyboard
















There are icons within the configuration pane on the live mode to operate different features of the DVR. The configuration pane is always on the left or right side of the screen in the 16:9 mode and can to be evoked by right-click in the 4:3 mode.

16:9 Display: the main menu is on the right side of the screen.

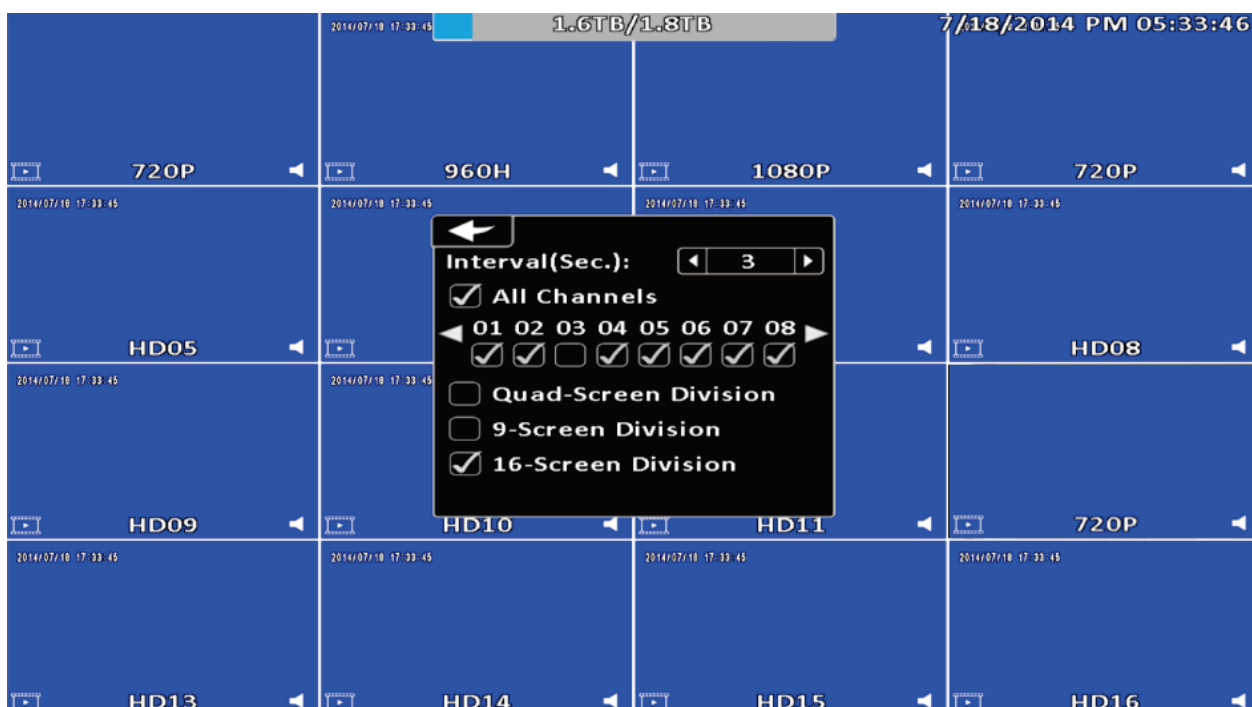


4:3 Display: right-click on the screen to evoke the main menu.




No	Name	Description
1		Set the auto sequential menu.
2		Set the backup menu to backup video data from DVR HDD.
3		Set the configuration menu to access recording settings, event settings, camera settings, account settings, network settings, storage settings, system configuration, and information.
4		Set the time search menu to choose a specific time of the recorded video to playback.
5		Set the event search menu to access the list of events recorded by the DVR. The event list will show the event occurrence time, event category, channel events, and other information.
6		Click to quickly playback the recordings.
7		Set the PTZ mode.
8		Set the Zoom-in function. The DVR supports zoom-in from 2x to 8x digital zoom.
9		Set image freeze function.
10		Enable/Disable PIP
11		Switch to single split
12		Switch to 4-split display
13		Switch to 9-split display
14		Switch to 13-split display
15		Switch to 16-split display

4.1 Auto Sequential



Item	Description
Interval	The time interval between each channel display.
All Channels	The DVR automatically switches between channels with designated interval. The DVR shows each channel in a single-split mode.
Quad-Screen Division	The DVR automatically switches between channels with designated interval. The DVR shows channels in 4-split mode.
9-Screen Division	The DVR automatically switches between channels with designated interval. The DVR shows channels in 9-split mode.
16-Screen Division	The DVR automatically switches between channels with designated interval. The DVR shows channels in 16-split mode.

After the setting, move the cursor away from the panel, so that the panel will disappear. To bring up the panel again, you need to left-click on the screen. Click the  button to return to the Live Mode.

4.2 Backup

User can backup recorded video data of a specified time frame. The DVR can backup video data to either direct-attached storage, such as DVR or USB drive, or remote folder of a PC.

4.2.1 Selection

Item	Description
From	The start time of video data to be backed up.
To	The end time of video data to be backed up.
Duration	The time duration of backup file.
All	It can select all channels or clear all selected channels to backup.
Required Space	Show the size of the backup file.

Backup

Data

From: 7/18/2014 PM 05:00:00

To: 7/18/2014 PM 06:00:00

Duration:

◀

1

▶

:

◀

00

▶

:

◀

00

▶

☐ All

Required Space: Calculate

Storage Media

Backup Device: USB Flash Drive ▼

Status: Unplugged

Free Space: 0.0MB

Backup

Close

4.2.2 Select Backup Device

Item	Description
Backup Device	Select target device of backup (USB/DVD-RW/remote folder).
Status	The status of target backup device.
Free Space	The available space in the target backup device. (not available for remote folder backup).
Backup	Start backup operation. Be sure to calculate the size of backup file BEFORE operating backup.

Note: Do not unplug the USB device or turn off the DVR during the backup process to avoid unrecoverable error.

Backup
Snapshot

Data

From:

To:

Duration:

☐ All

Required Space:

7/18/2014 PM 05:00:00

7/18/2014 PM 06:00:00

◀ 1 ▶ : ◀ 00 ▶ : ◀ 00 ▶

01 02 03 04 05 06 07 08

◀ ◻ ◻ ◻ ◻ ◻ ◻ ◻ ▶

Calculate

Storage Media

Backup Device:

Status:

Free Space:

USB Flash Drive ▼

USB Flash Drive


DVD-RW

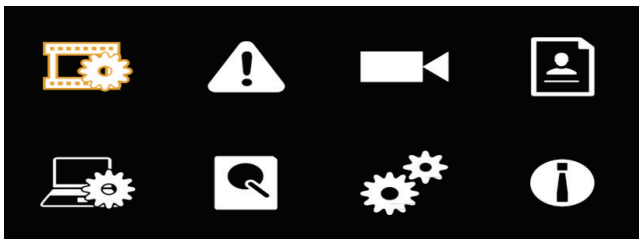
Folder

Backup


Close

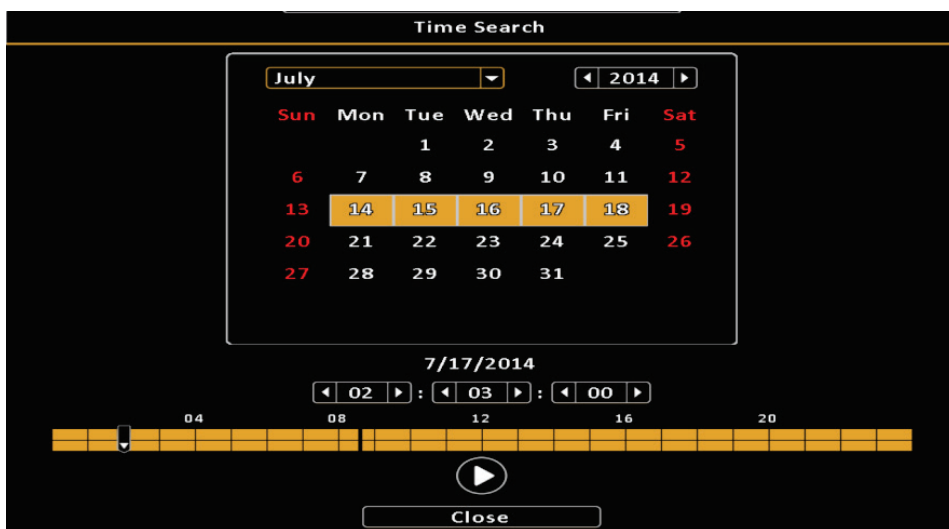
4.3 Configuration


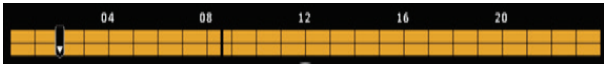
Click the **Configure**  icon to bring up the configuration menu, recording settings, event settings, camera settings, account settings, network settings, storage settings, system configuration, and information. Please refer to Chapter 5 for detail.



4.4 Time Search

You can search the specific time of recorded data for playing back. Note that dates with recording data are marked with an orange box. The system will start playing video of specified time period. Select a “year”, “month” and “date” to display recording time of that specific date with time bar. You can change time (hour/minute/second) or click on a specific point of time bar by mouse and then click “”. DVR will play back the recorded data of the specific time.



Item	Description
	Playback button, start playback.
	Select a playback time by sliding the position of the cursor to the specified time. The timeline scale is 24 hours. The orange chart represents available video data.












Playback Mode:



Remote Control Button:

Button	Description
ENTER/ MODE	Switch to full screen or multi-split display.
MENU / ■■	Turn on/off PAUSE.
PLAY	Playback at normal speed.
▲ / SLOW	Playback at slower speed. The speed will be slowed to 1/2, 1/4, 1/8 playback speed, by pressing of the button till the slowest speed.
◀◀ / ◀	Fast rewind. Each press increases the rewind speed to the next level. There are six speeds: 2X, 4X, 8X, 16X, 32X and 64X.
▶▶ / ▶	Fast forward. Each press increases the forward speed to the next level. There are six speeds: 2X, 4X, 8X, 16X, 32X and 64X.
▼ / ■	Stop playback.

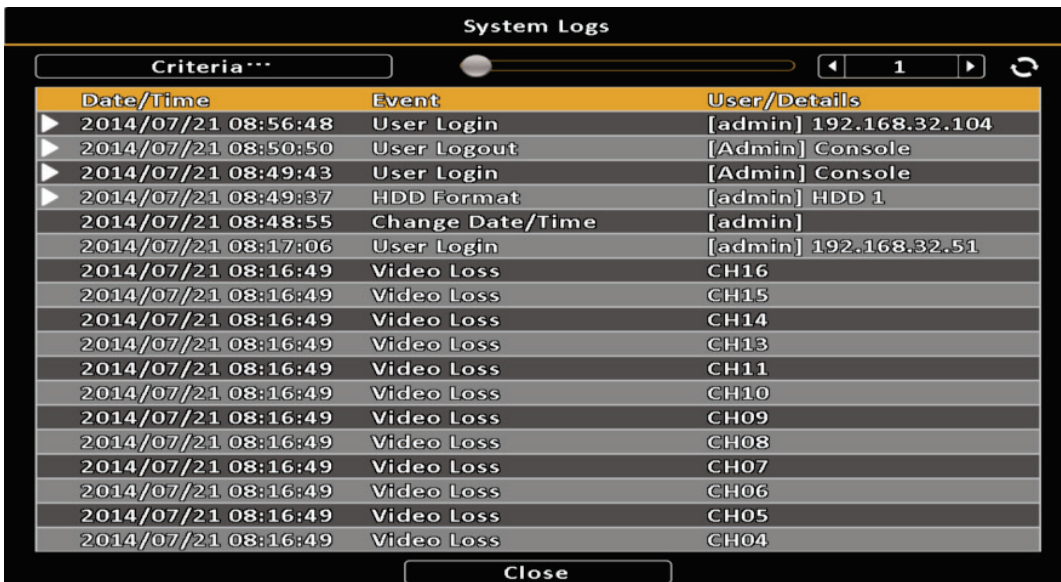
Mouse Operation:

Item	Description
	Play
	Pause
	Fast rewind, speed 4x, 8x, 16x, 32x
	Fast forward, speed 4x, 8x, 16x, 32x
	Slow playback, speed 1/2x, 1/4x, 1/8x
	Step playback
	Zoom-in display, 2x ~ 8x digital zoom
	Full screen display
	Quad display
	9 screen display
	16 screen display

Note: If you want to monitor single channel, please double-click the preferred channel.




4.5 System Logs

The DVR logs events automatically. The event list shows the logged events, event type, event detail, event filter (criteria), and page number of the event list. If the event video is logged, there is a play icon "▶" on the left of the event. Move the cursor to event line and press "ENTER", or left-click the event line.



Date/Time	Event	User/Details
▶ 2014/07/21 08:56:48	User Login	[admin] 192.168.32.104
▶ 2014/07/21 08:50:50	User Logout	[Admin] Console
▶ 2014/07/21 08:49:43	User Login	[Admin] Console
▶ 2014/07/21 08:49:37	HDD Format	[admin] HDD 1
2014/07/21 08:48:55	Change Date/Time	[admin]
2014/07/21 08:17:06	User Login	[admin] 192.168.32.51
2014/07/21 08:16:49	Video Loss	CH16
2014/07/21 08:16:49	Video Loss	CH15
2014/07/21 08:16:49	Video Loss	CH14
2014/07/21 08:16:49	Video Loss	CH13
2014/07/21 08:16:49	Video Loss	CH11
2014/07/21 08:16:49	Video Loss	CH10
2014/07/21 08:16:49	Video Loss	CH09
2014/07/21 08:16:49	Video Loss	CH08
2014/07/21 08:16:49	Video Loss	CH07
2014/07/21 08:16:49	Video Loss	CH06
2014/07/21 08:16:49	Video Loss	CH05
2014/07/21 08:16:49	Video Loss	CH04

Note: If the hard disk is not installed or has not started recording, the DVR will produce the event list, but the user cannot playback the video of a specific event by clicking the event.

Item	Description
Criteria	Set the conditions for the event search.
	Slide the slider to choose a page of the event list. The right numbers will show the corresponding page number.
	Press left and right arrow keys or enter the page number directly. It will go to the select event page.
	Refresh the event list.

4.5.1 Search Criteria

The number of event is up to thousands; therefore, to set "search criteria" to filter events. If the checkboxes of start time and end time are checked, the event list will only display the events within the specific time slot. If the user only checks some events and presses the "OK ", the lists will only show the checked events. If you uncheck the channels, the event list will filter out the unchecked channels.

☐ From: 7/21/2014 AM 10:50:26
☐ To: 7/21/2014 AM 10:50:26

☐ All
☒ Power On
☒ Sensor
☒ User Logout
☒ Import Configuration
☒ Change Date/Time
☒ Set HDD Record Flag
☒ Set Admin Password
☒ Channel Record
☒ Video Motion
☒ Export Configuration
☒ Export Logs
☒ Change Record Config
☒ System Upgrade
☒ Write Error
☒ Video Loss
☒ User Login
☒ Reset Configuration
☒ Clear Logs
☒ HDD Format
☒ Backup

☐ User

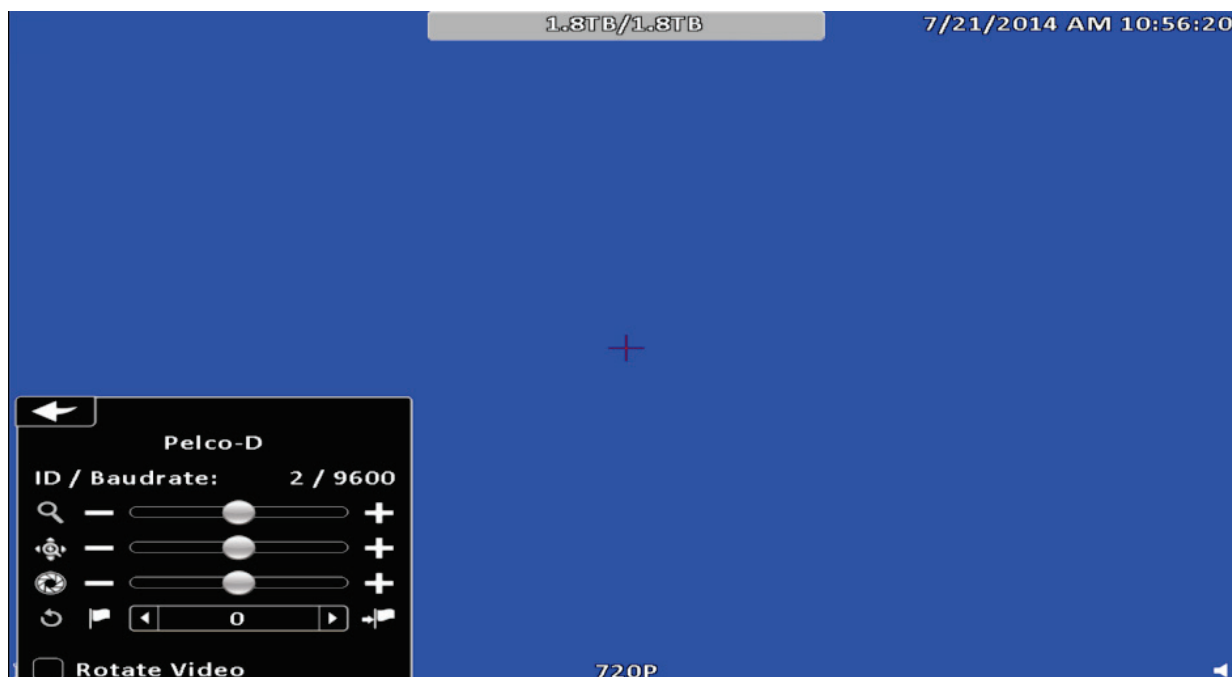
☐ All








01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

OK Cancel

4.6 PTZ

You can set up the PTZ camera settings. Enter the PTZ configuration page, and the PTZ control panel displays the camera PTZ setting. There is a red cross on the center of the screen. Move the mouse to the Red Cross and hold down the left mouse button to the preferred location of the screen. The DVR will move the camera to the preferred place by placing the preferred place to the center of the screen. Click on any position on the screen to control the PTZ camera to move to that direction.





Item	Description
	ZOOM. Press + / - or move the slider to adjust the zoom level.
	FOCUS. Press + / - or move the slider adjust the PTZ focus.
	IRIS. Press + / - or move the slider to adjust the PTZ iris.
	Press left and right arrow keys to move the camera to the preset locations, and then press  to set current camera location to default point.
	Press left and right arrow keys to move the camera to the preset locations, and then press  to change the camera to next preset point.
Rotate Video	Make the display upside down.

4.7 Zoom

In the digital zoom mode, users may use the mouse to move the red rectangle of the zoom area. You can drag the small window.













Item	Description
	Zoom in the area specified by the red rectangle.
	Zoom out the area specified by the red rectangle.

4.8 Shortcut Toolbar

In Live Mode, move your mouse over the upper middle side of the window, a Shortcut Toolbar will appear for fast operation.



Item	Description
	User login / logout: Auto lock is used.
	System Information: The host model, version, IP location, MAC values and hard disk information.
	Wide screen switching: Switch 4:3 / 16:9 monitor display.
	Screenshot.
	Turn on / off recording.
	Full screen.
	Preference: Change the PC side screenshots, video storage path.
	Network Stream Quality: You can follow the PC network bandwidth, adjust the image transfer traffic.
	Event pop-up window setting and OSD setting.
	Relays. The user can control the behavior of the relay on the DVR.

Note:

1. The recording, full screen, preference, network video quality functions are only allowed for the remote use.
2. The screenshot, recording, options function are only available in "EverFocus DVRAX from EverFocus Inc" use; IE 7/8/9 do NOT support.

4.8.1 Network Stream Quality

Multiple-Screen Division

☐ Low Quality Static Image
 ☒ Low Quality
 ☐ High Quality Static Image
 ☐ High Quality

Single-Screen Division

☐ Low Quality Static Image
 ☐ Low Quality
 ☐ High Quality Static Image
 ☒ High Quality

☐ Remote Record

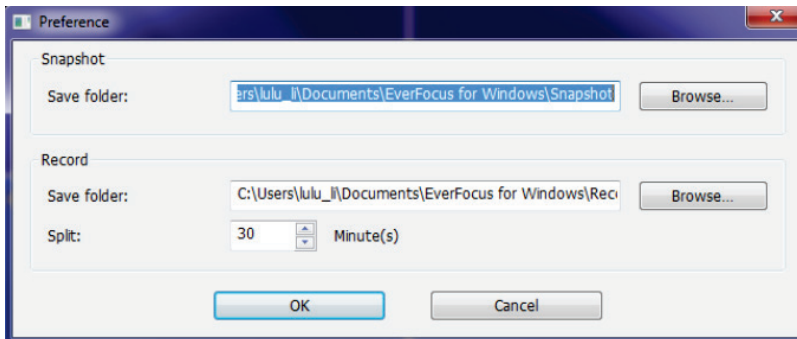
OK

Cancel

Item	Description
Low Quality Static Image	Insufficient bandwidth used for one second about running 1 ~ 2 FPS.
Low Quality	According to the DVR recording settings.
High Quality Static Image	Insufficient bandwidth to use for one second about running 1 ~ 2 FPS.
High Quality	According to the DVR recording settings.

4.8.2 Preference

You can change the PC side screenshots, or video storage path.



4.8.3 Pop-up Setup



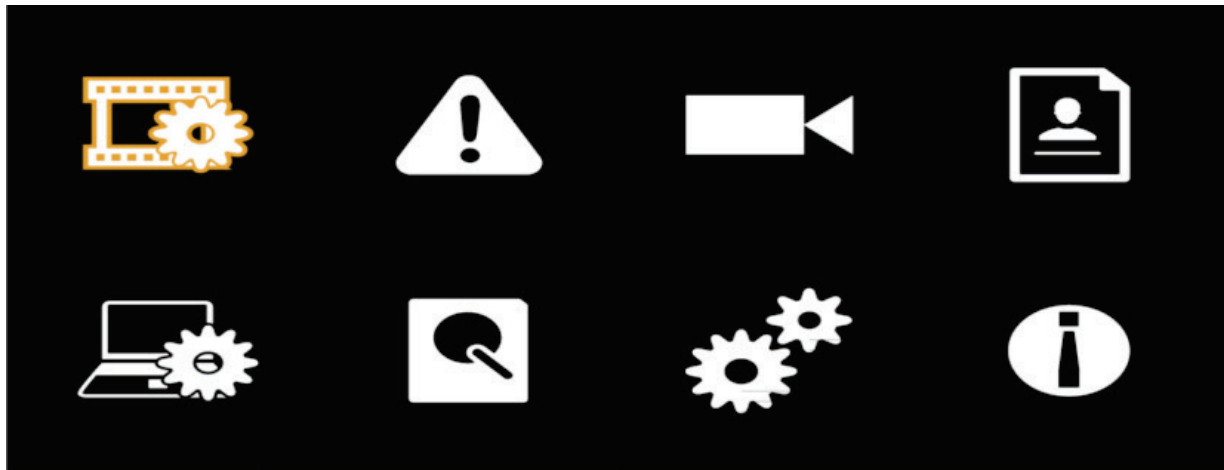
Item	Description
Event	Pop-up window displays the channel status.
OSD	Display time, HDD status, channel information, and channel border.

4.8.4 Relay Setup

Relay1	Relay2	Relay3	Relay4
On	On	On	On
Off	Off	Off	Off
Auto	Auto	Auto	Auto
Close			

Item	Description
Relay 1 ~ 4	Relay J Series x1, N Series x2, B Series x4.
Functional	Turn On / Off or Auto.

5. Configuration Menu



5.1 Record Setup

Record Setup

Record Mode: Off

Continuous Record
Schedule Record

Video

CH01

CH02

CH03

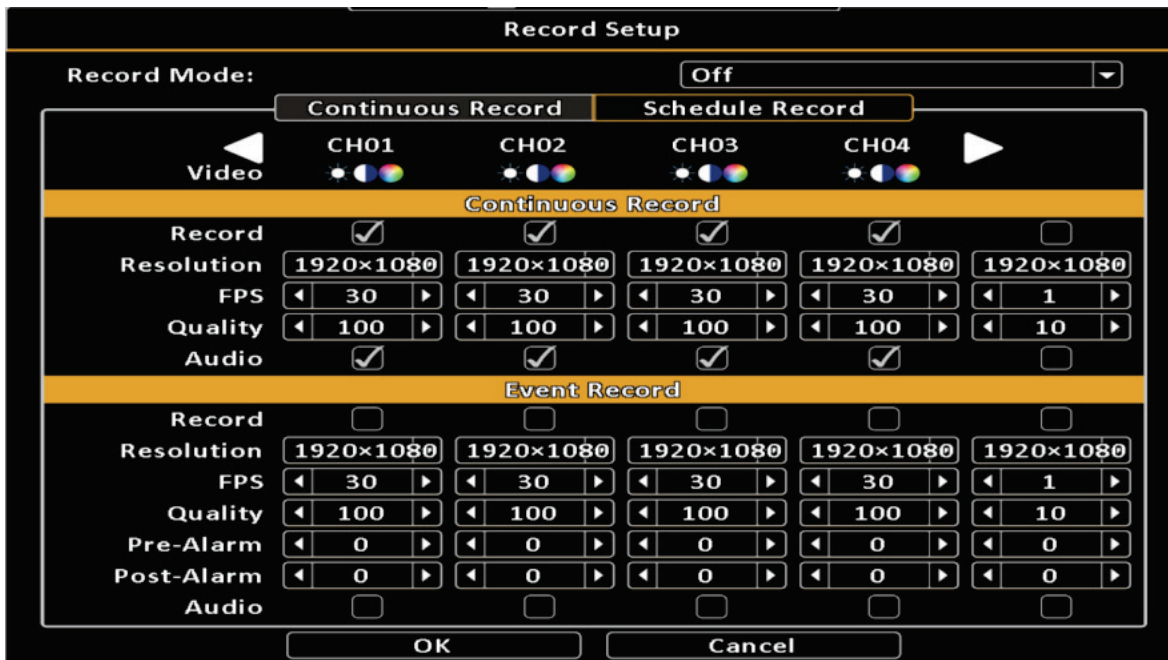
CH04

	Continuous Record				
Record	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Resolution	1920×1080	1920×1080	1920×1080	1920×1080	1920×1080
FPS	◀ 30 ▶	◀ 30 ▶	◀ 30 ▶	◀ 30 ▶	◀ 1 ▶
Quality	◀ 100 ▶	◀ 100 ▶	◀ 100 ▶	◀ 100 ▶	◀ 10 ▶
Audio	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Event Record				
Record	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resolution	1920×1080	1920×1080	1920×1080	1920×1080	1920×1080
FPS	◀ 30 ▶	◀ 30 ▶	◀ 30 ▶	◀ 30 ▶	◀ 1 ▶
Quality	◀ 100 ▶	◀ 100 ▶	◀ 100 ▶	◀ 100 ▶	◀ 10 ▶
Pre-Alarm	◀ 0 ▶	◀ 0 ▶	◀ 0 ▶	◀ 0 ▶	◀ 0 ▶
Post-Alarm	◀ 0 ▶	◀ 0 ▶	◀ 0 ▶	◀ 0 ▶	◀ 0 ▶
Audio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

OK
Cancel

Item	Description
Record Mode	Continuous Record / Schedule Record / Stop Record.

5.1.1 Continuous Record



Record Setup

Record Mode: Off

Continuous Record | **Schedule Record**

Video CH01 CH02 CH03 CH04


Continuous Record

	CH01	CH02	CH03	CH04	
Record	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Resolution	1920×1080	1920×1080	1920×1080	1920×1080	1920×1080
FPS	30	30	30	30	1
Quality	100	100	100	100	10
Audio	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Event Record

	CH01	CH02	CH03	CH04	
Record	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resolution	1920×1080	1920×1080	1920×1080	1920×1080	1920×1080
FPS	30	30	30	30	1
Quality	100	100	100	100	10
Pre-Alarm	0	0	0	0	0
Post-Alarm	0	0	0	0	0
Audio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

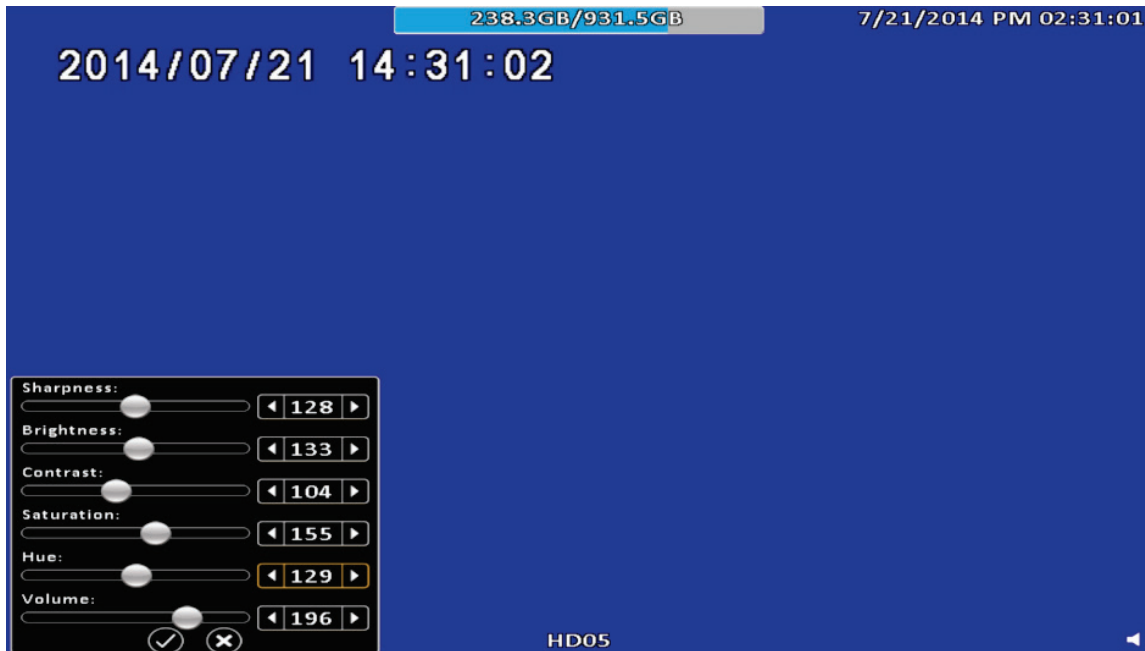
OK Cancel

Item	Description
Video	Click  icon, it will go to the video setting menu of this channel (below). In settings menu, press to save, press to go back to the original video settings menu *1
Record	Enable / Disable recording for this channel.
Resolution	Recording resolution selection. *2
FPS	Select recording frame rate, from 1 to 30.
Quality	Recording quality, from 10 to 100. The larger number means the better quality.
Audio	Enable / Disable recording audio.

Note:

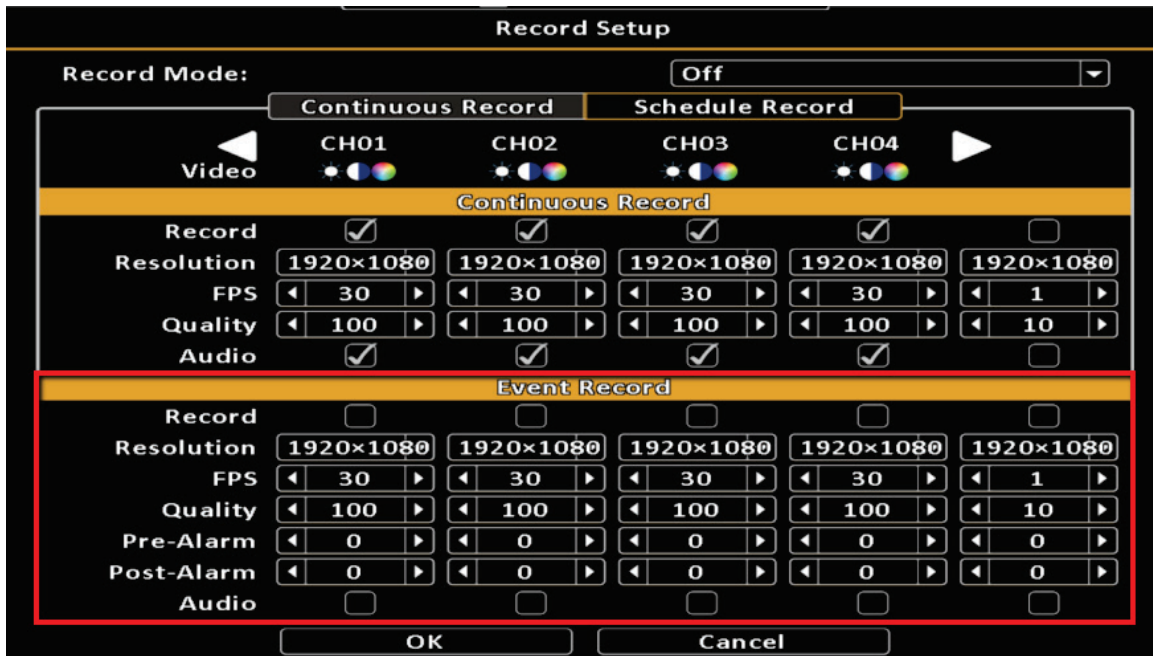
1. If the channel source is HD signal, there will be no function.
2. Different models have different resolution settings.

5.1.1.1 Video Settings



Item	Description
Sharpness	Adjust sharpness from 0 to 255.
Brightness	Adjust brightness from 0 to 255.
Contrast	Adjust contrast from 0 to 255.
Saturation	Adjust saturation from 0 to 255.
Hue	Adjust hue from 0 to 255.
Volume	Adjust volume from 0 to 255.

5.1.1.2 Video Settings



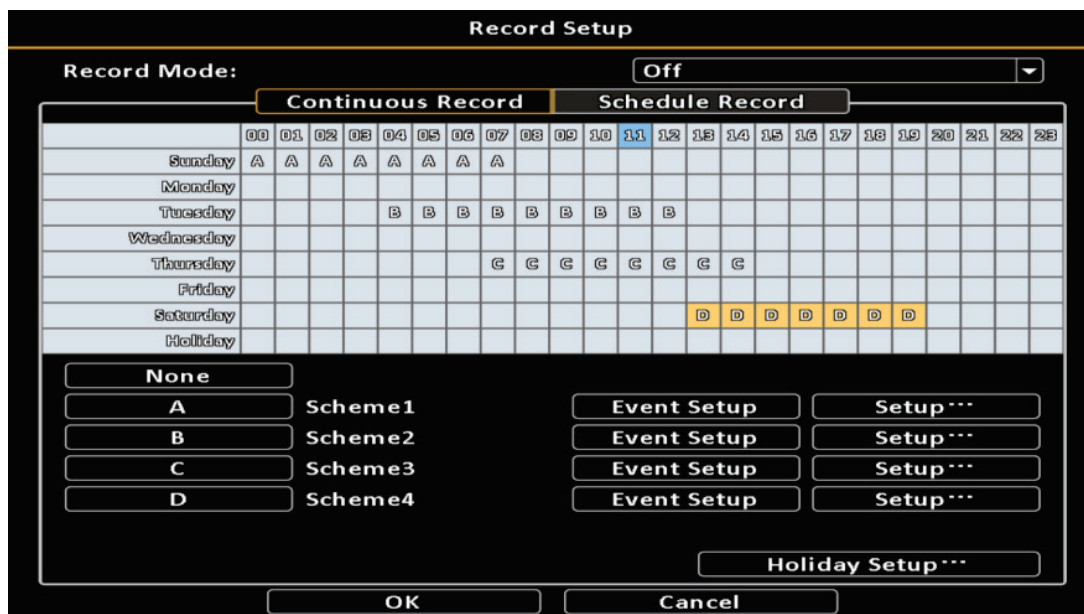
Item	Description
Record	Enable / Disable recording of a channel.
Resolution	Recording resolution selection. *Note
FPS	Select recording frame rate from 1 to 30.
Quality	Recording quality from 10 to 100. The larger number means the better quality.
Pre-Alarm	Set the record seconds before the event, from 0 to 5.
Post-Alarm	Set the playback seconds after the event, from 0 to 100.

Note: Different models have different resolution settings.

Input Setting	Resolution		
NTSC (HD)	1920 x 1080	1280 x 720	640 x 360
NTSC (960H)	944 x 480	704 x 480	472 x 240
NTSC (D1)	704 x 480	704 x 240	352 x 240
PAL (HD)	1920 x 1080	1280 x 720	640 x 360
PAL (960H)	944 x 576	704 x 576	472 x 288
PAL (D1)	704 x 576	704 x 288	352 x 288

5.1.2 Schedule Recording

You can configure recording time by days of a week and hour in this page. With the A, B, C, D four settings, users can set different recording scheme according to different configuration needs. In the day and time grid, select the schedule time zone, and then press one of the A, B, C, D buttons to configure the video settings.



Record Setup

Record Mode: Off

Continuous Record **Schedule Record**

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sunday	A	A	A	A	A	A	A	A																
Monday																								
Tuesday					B	B	B	B	B	B	B	B	B											
Wednesday																								
Thursday								C	C	C	C	C	C	C										
Friday																								
Saturday														D	D	D	D	D	D	D				
Holiday																								

None A Scheme1 Event Setup Setup...
 B Scheme2 Event Setup Setup...
 C Scheme3 Event Setup Setup...
 D Scheme4 Event Setup Setup...
 Holiday Setup...

OK Cancel

5.1.2.1 Configuration



Record Setup

Name: Scheme1

Video CH01 CH02

Continuous Record

Record ☒ ☒

Resolution 1920x1080 1920x1080

FPS 30 30

Quality 100 100

Audio ☐ ☐

Event Record

Record ☐ ☐ ☐ ☐ ☐

Resolution 1920x1080 1920x1080 1920x1080 1920x1080 1920x1080

FPS 30 30 30 30 1

Quality 100 100 100 100 10

Pre-Alarm 0 0 0 0 0

Post-Alarm 0 0 0 0 0

Audio ☐ ☐ ☐ ☐ ☐

OK Cancel
OK Cancel

Item	Description
Name	Change the recording name of the channel. Please refer to 5.1.1 <i>Continuous Record</i> for the rest of the settings.

5.1.2.2 Holiday Configuration

The number of holiday is up to 50. When it is on the specified holidays, the DVR will start recording according to holiday configuration.

Since holidays are different by different countries and regions, users can setup holidays according to user needs.



Record Setup

Record Mode: Off

Continuous Record | **Schedule Record**

January

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

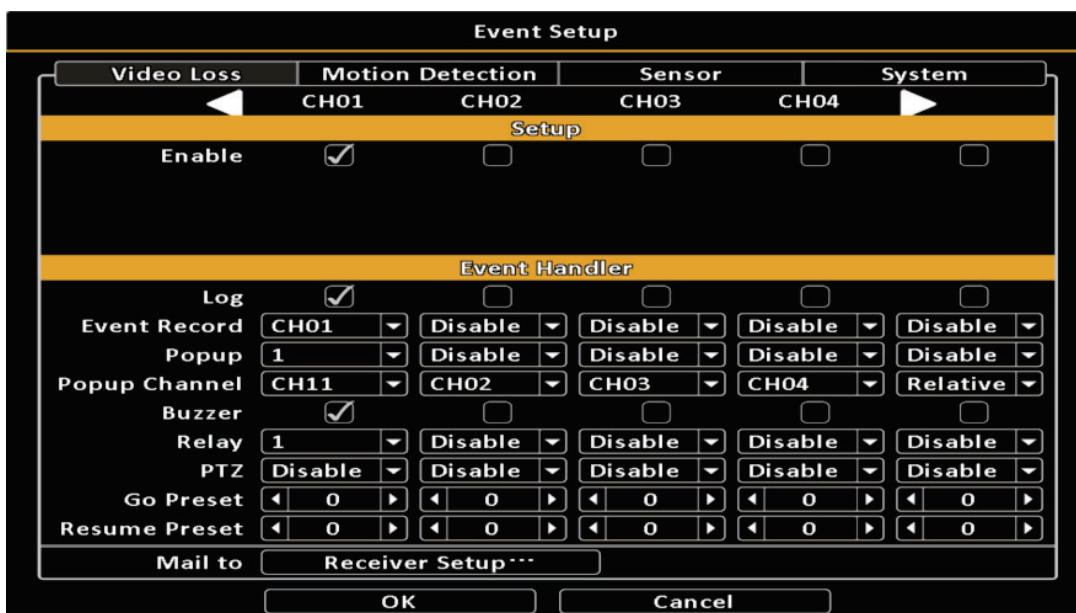
OK Cancel

Holiday Setup...

OK Cancel

5.2 Event Setup

5.2.1 Video Loss



Event Setup

Video Loss | **Motion Detection** | **Sensor** | **System**

CH01 CH02 CH03 CH04

Setup

Enable ☒ ☐ ☐ ☐ ☐

Event Handler

Log ☒ ☐ ☐ ☐ ☐

Event Record CH01 Disable Disable Disable Disable

Popup 1 Disable Disable Disable Disable

Popup Channel CH11 CH02 CH03 CH04 Relative

Buzzer ☒ ☐ ☐ ☐ ☐

Relay 1 Disable Disable Disable Disable

PTZ Disable Disable Disable Disable

Go Preset 0 0 0 0 0

Resume Preset 0 0 0 0 0

Mail to **Receiver Setup...**

OK Cancel

5.2.1.1 Configuration

Item	Description
Enable	Enable / Disable video loss detection function.

5.2.1.2 Event Handling

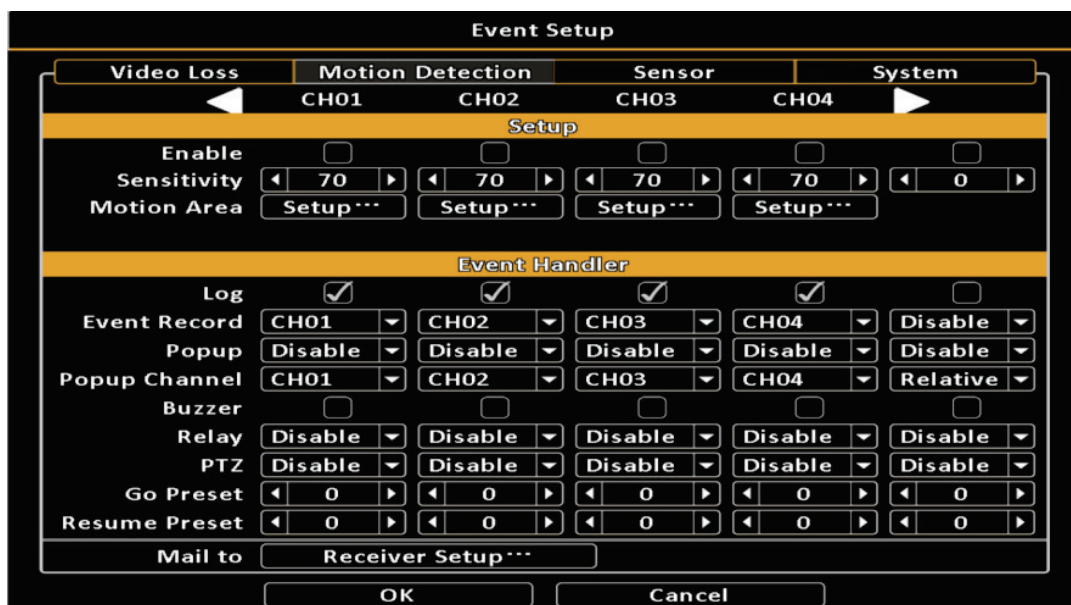
Item	Description
Log	Check to log events when the video loss event happens.
Event Record	Select channel for event recording when event occurs. The video setup corresponds to the "Configuration → Recording Settings → Event Video Recording".
Popup	In the live mode, if video loss of a channel is detected, it will pop up the channel full screen. You can specify a warning window display, 1: the main screen, 2: the second screen.
Popup Channel	When an event occurs, it will pop up the specified channel.
Buzzer	Check to enable the buzzer when an event occurs.
Relay	Select to enable the relay when an event occurs.
PTZ	Specify the DVR behavior of whether to change to the PTZ control mode to the specified channel when an event occurs.
Go Preset	Moves the camera to the specified preset point when an event occurs.
Resume Preset	Moves the camera back to the specified preset point when an event is finished.

5.2.1.3 Receiver Setup



Item	Description
Enable	Specify whether the DVR sends e-mail notice to notify users when an event occurs.
Admin / Users	Specify the receiver of e-mail notices.

5.2.2 Motion Detection

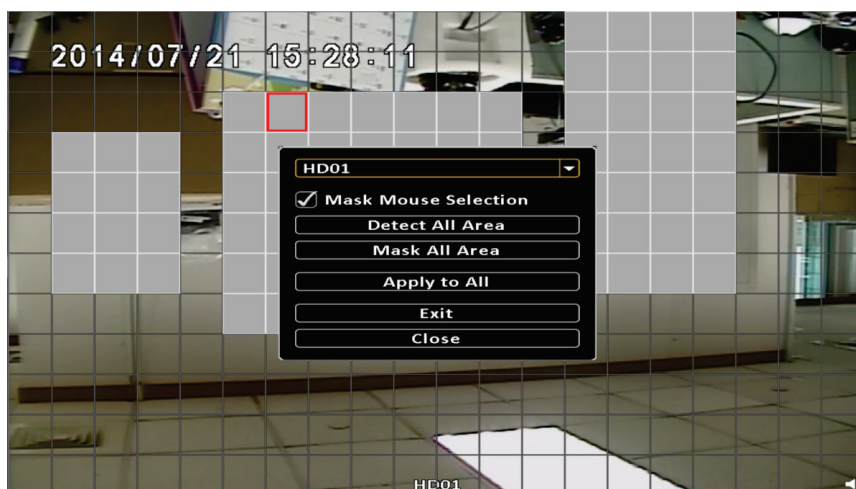


5.2.2.1 Configuration

Item	Description
Enable	Enable / Disable the motion detection function of this channel.
Sensitivity	The sensitivity value is from 0 to 100. The higher value means higher sensitivity.
Motion Area	Enter to setup motion detection area.

5.2.2.1.1 Motion Area Setup

The motion detection has been divided into 22 x18 grids. The default detection area is full screen. The screen is marked in transparent for detection area and grey for disabled area of motion detection.



Item	Description
CH01~ CH16	Selected channel motion detection function.
Mask Mouse Selection	Switch between “select” and “deselect” for cursor-dragging function.
Detect All Area	Select entire screen as detection area.
Mask All Area	Deselect entire detection area.
Apply to All	Apply the current settings to all channels.
Exit	Leave and save settings.
Close	Close and save the area settings menu.

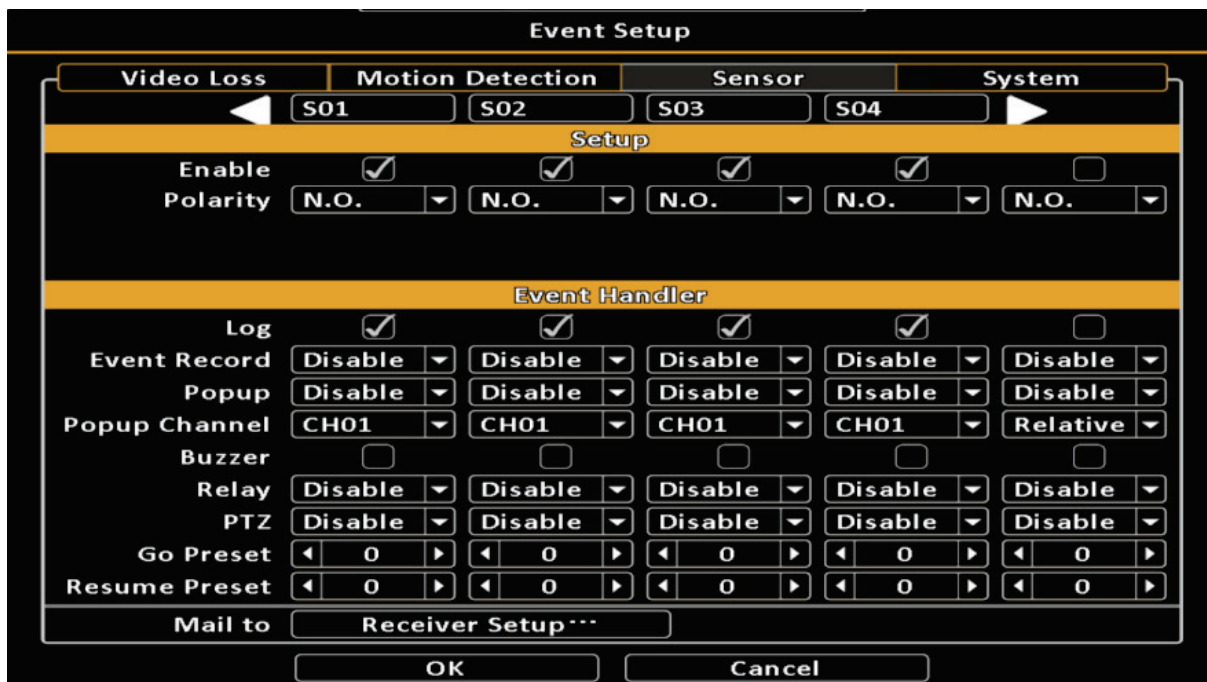
5.2.2.2 Event Handling

Please refer to 5.2.1.2 Event Handling.

5.2.2.3 Receiver Setup

Please refer to 5.2.1.3 Receiver Setup.

5.2.3 Sensor



Each sensor name can be modified and can remotely enter various languages.

5.2.3.1 Configuration

Item	Description
Enable	Enable/Disable sensor.
Polarity	N.C: The sensor has not been triggered. When connected, sensor will be turned on.
	N.O: The sensor has been triggered. When connected, sensor status will be turned off.

5.2.3.2 Event Handling

Please refer to 5.2.1.2 Event Handling.

5.2.3.3 Receiver Setup

Please refer to 5.2.1.3 Receiver Setup.

5.2.4 System

When the system event occurs, give a notice or warning according to the settings of relay, buzzer, and receiver. If the buzzer box is checked, the buzzer continually beeps for only errors related to the video (EX: The hard drives can't write or the DVR is not installed with the hard drive). The buzzer does not beep when other system events, such as login, log out or boot, etc., occurs.



The screenshot shows the 'Event Setup' dialog box with the 'System' tab selected. The 'Event Handler' section contains the following settings:

- Buzzer:** Checked (indicated by a checkmark in a box).
- Relay:** Set to 'Disable' (indicated by a dropdown menu showing 'Disable').
- Mail to:** Set to 'Receiver Setup***' (indicated by a button labeled 'Receiver Setup***').

At the bottom of the dialog box are 'OK' and 'Cancel' buttons.

Item	Description
Buzzer	Specify whether the buzzer beeps when a recording error occurs.
Relay	Specify the relay to be activated when an event occurs.

5.2.4.1 Receiver Setup

Please refer to 5.2.1.3 *Receiver Setup*.

5.3 Camera Setup



Item	Description
Mask	Check the box to Enable/Disable the mask function for the camera in the LIVE mode
Name	Channel name.
Timestamp	Click on the black screen to set position of the timestamp.

5.3.1 PTZ Setup



Item	Description
Enable	Click the box to Enable/Disable PTZ function.
Protocol	Set up the protocol of PTZ cam. The supported protocols are: PELCO-D, PELCO-P, SAMSUNG, SAMSUNG II, and LG-MultixE.
PTZ ID	Set up PTZ ID. The valid ID value is from 0 to 255.
Baud Rate	Select Baud Rate of the PTZ control protocol from 2400, 4800, 9600, and 19200.

5.4 Account Setup

You can set the user password and permissions of 10 user accounts (1 admin + 10 users). These different accounts give users different permissions of DVR functions.

5.4.1 Administrator

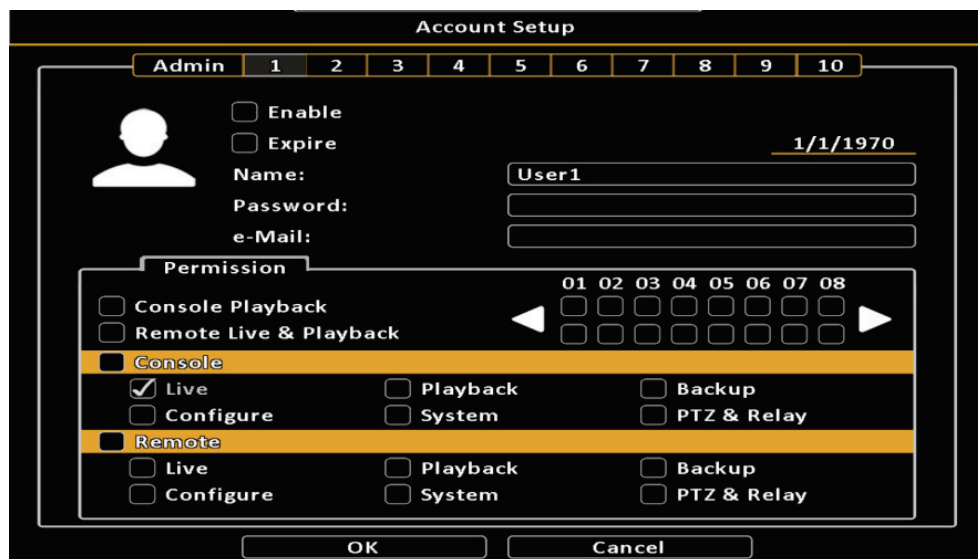
The default admin account and password is “**admin**” and “**11111111**”.



The screenshot shows the 'Account Setup' window with a tabbed interface. The 'Admin' tab is selected. On the left is a user icon. To its right are two checkboxes: 'Enable' (checked) and 'Expire' (unchecked). Below these are labels for 'Name:', 'Password:', and 'e-Mail:'. To the right of these labels are three input fields: the first contains 'Admin', the second contains 'Change Password', and the third contains 'george_deng@everfocus.com.tw'. At the bottom of the window are 'OK' and 'Cancel' buttons.

Item	Description
Enable	Check to activate the user's account.
Expire	Set the expiration date of the user account.
Name	Set up the username.
Password	Set up the password. The password can be mixed of letters and numbers and is case-sensitive.
e-Mail	Set up the user email.

5.4.2 Other Users



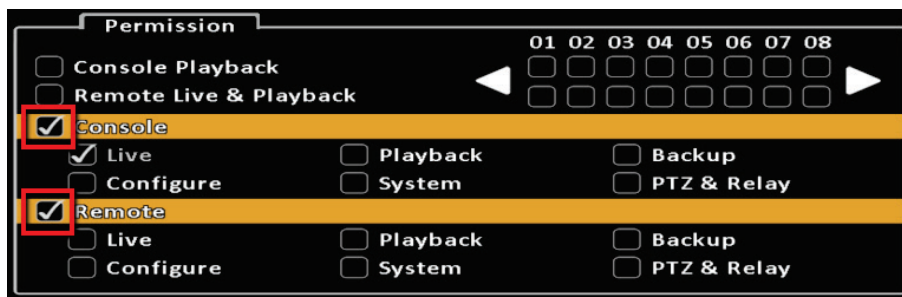
Item	Description
Enable	Check to activate the user's account.
Expire	Set the expiration date of the user account.
Name	Set up the username.
Password	Set up the password. The password can be mixed of letters and numbers and is case-sensitive.
e-Mail	Set up the user email.

5.4.2.1 Permission

The Account Setup is set to provide individual user role-based permissions, including access to Setup menu, Network operation, PTZ function, Playback, Utility, Backup, Password expiration date and Mask on specific channels while playing back.

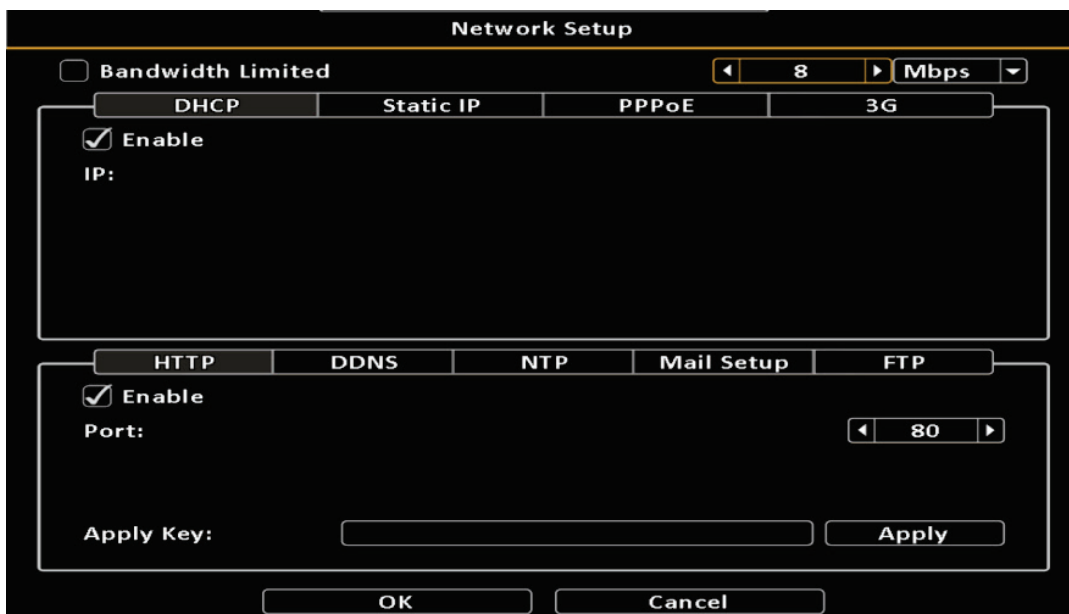
Item	Description
Console Playback	Allow the permissions to playback channel in local side
Remote Live & Playback	Allow the permissions to live monitor/playback channel in remote side
Console	Allow the permissions to operate in local side (Live, Playback, Backup, Configure, System, PTZ)
Remote	Allow the permissions to operate in remote side (Live, Playback, Backup, Configure, System, PTZ)

Please note that you must check the box to enable the local and remote permission to be able to use the functions.



The image shows the 'Permission' settings screen. It has a title bar 'Permission' and a grid of checkboxes for permissions. The grid is organized into two main sections: 'Console' and 'Remote'. Each section has a 'Live' checkbox and a 'Configure' checkbox. The 'Console' section also has a 'Playback' checkbox and a 'Backup' checkbox. The 'Remote' section also has a 'Playback' checkbox and a 'Backup' checkbox. The 'Live' and 'Configure' checkboxes for both 'Console' and 'Remote' are checked. The 'Playback' and 'Backup' checkboxes are unchecked. There are also checkboxes for 'System' and 'PTZ & Relay' in the 'Remote' section. The 'Console' section has a 'Remote Live & Playback' checkbox which is unchecked. The 'Console' section has a 'Live' checkbox which is checked. The 'Remote' section has a 'Live' checkbox which is checked. The 'Console' section has a 'Configure' checkbox which is checked. The 'Remote' section has a 'Configure' checkbox which is checked. The 'Console' section has a 'Playback' checkbox which is unchecked. The 'Remote' section has a 'Playback' checkbox which is unchecked. The 'Console' section has a 'Backup' checkbox which is unchecked. The 'Remote' section has a 'Backup' checkbox which is unchecked. The 'Console' section has a 'System' checkbox which is unchecked. The 'Remote' section has a 'System' checkbox which is unchecked. The 'Console' section has a 'PTZ & Relay' checkbox which is unchecked. The 'Remote' section has a 'PTZ & Relay' checkbox which is unchecked. There are also checkboxes for '01' through '08' in the top right corner.

5.5 Network Setup



The image shows the 'Network Setup' screen. It has a title bar 'Network Setup'. There are several tabs: 'DHCP', 'Static IP', 'PPPoE', '3G', 'HTTP', 'DDNS', 'NTP', 'Mail Setup', and 'FTP'. The 'DHCP' tab is selected. Under 'DHCP', there is a 'Bandwidth Limited' checkbox which is unchecked. There is a 'Enable' checkbox which is checked. There is an 'IP:' label. The 'HTTP' tab is selected. Under 'HTTP', there is an 'Enable' checkbox which is checked. There is a 'Port:' label with a value of '80'. There is an 'Apply Key:' label with a text input field. There is an 'Apply' button. There are 'OK' and 'Cancel' buttons at the bottom.

Item	Description
DHCP	The DVR retrieves from a DHCP server automatically.
Static IP	Set up a Static IP address of the DVR.
PPPoE	Set up the username and password for PPPoE connection.
3G Setup	Set up the login configuration of 3G connection.
HTTP Setup	Set up the HTTP configuration for remote access.
DDNS	Set up the DDNS configuration.
NTP	Set up the NTP configuration.
Mail Setup	Set up the mail sending configuration.
FTP Setup	Set up the FTP configuration.

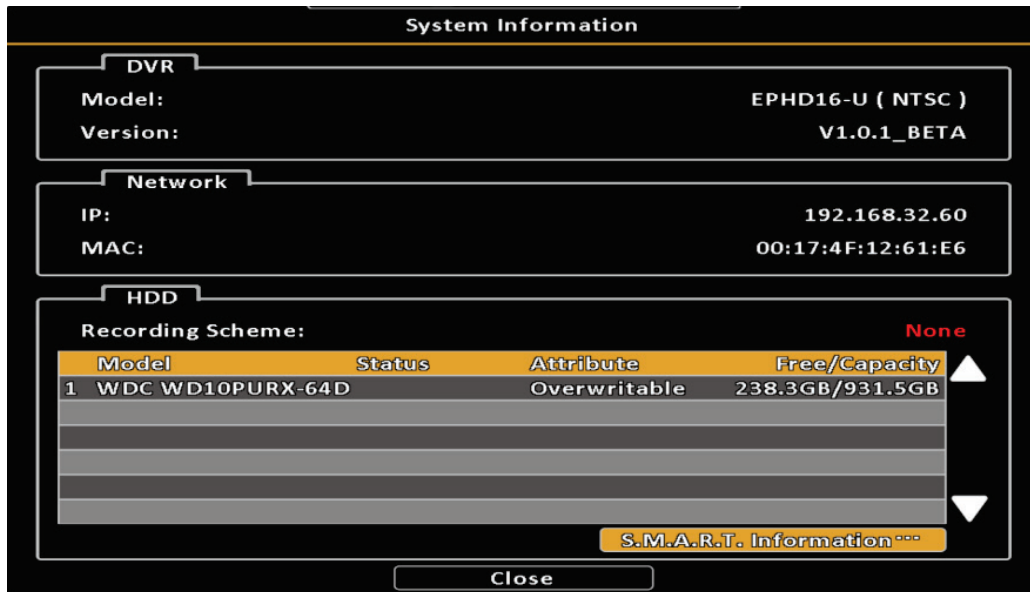
5.5.1 Networking Setup

There are three ways to connect to the network.

5.5.1.1 DHCP Setup

When DHCP is selected, IP address will be assigned by DHCP server automatically.

Notice: The IP address shown in this page is not the IP address obtained from the DHCP server. The IP obtained from the DHCP server is shown in the System Information Page.



System Information

DVR

Model: EPHD16-U (NTSC)
Version: V1.0.1_BETA

Network

IP: 192.168.32.60
MAC: 00:17:4F:12:61:E6

HDD

Recording Scheme: None

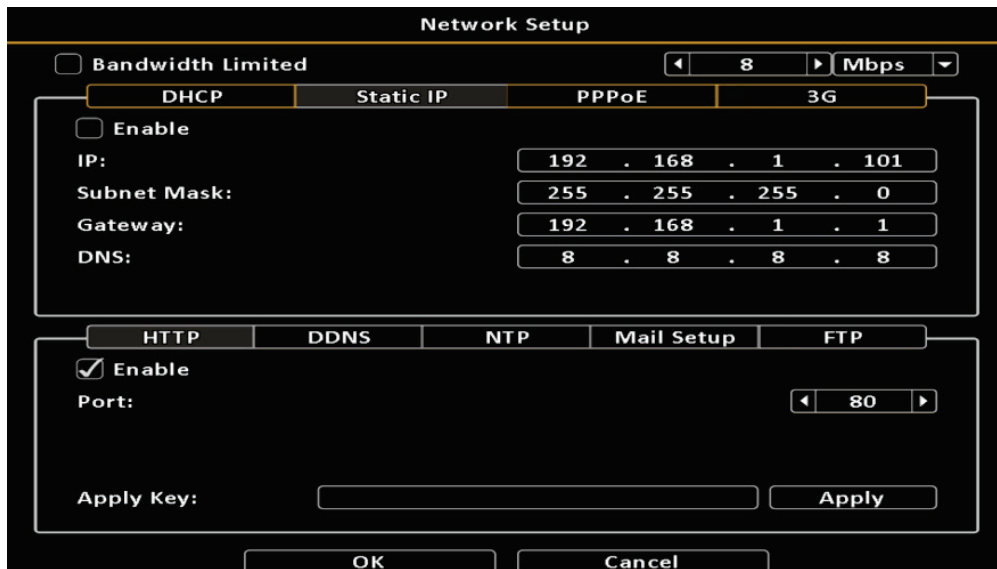
Model	Status	Attribute	Free/Capacity
1 WDC WD10PURX-64D		Overwritable	238.3GB/931.5GB

S.M.A.R.T. Information***

Close

5.5.1.2 Static IP Setup

Setup Static IP for network connection, the following information is required.



Network Setup

☐ Bandwidth Limited 8 Mbps

DHCP **Static IP** **PPPoE** **3G**

☐ Enable

IP: 192 . 168 . 1 . 101
Subnet Mask: 255 . 255 . 255 . 0
Gateway: 192 . 168 . 1 . 1
DNS: 8 . 8 . 8 . 8

HTTP **DDNS** **NTP** **Mail Setup** **FTP**

☒ Enable

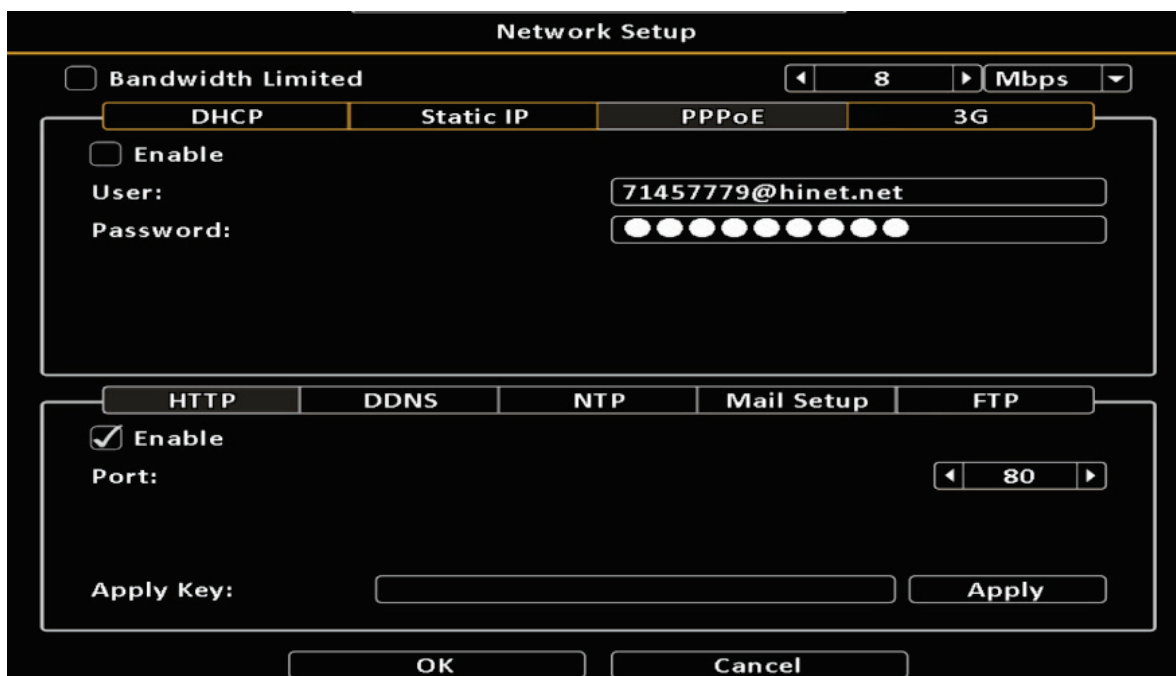
Port: 80

Apply Key:

Item	Description
Enable	Enable / Disable Static IP function.
IP	Enter the static IP address provided by ISP.
Subnet Mask	Enter IP address of Subnet Mask provided by ISP.
Gateway	Enter IP address of the Gateway provided by ISP.
DNS	Enter the DNS address provided by ISP. (Note: The correct DNS address must be entered for DDNS function).

5.5.1.3 PPPoE Setup

Select PPPoE for network connection, the following information is required.



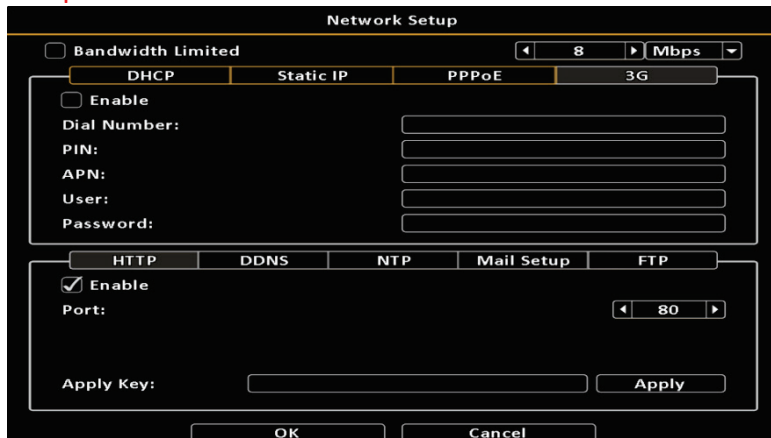
The screenshot shows the 'Network Setup' window. At the top, there's a 'Bandwidth Limited' checkbox and a speed selector set to '8 Mbps'. Below this are four tabs: 'DHCP', 'Static IP', 'PPPoE' (which is selected), and '3G'. In the 'PPPoE' tab, there's an 'Enable' checkbox, a 'User' field containing '71457779@hinet.net', and a 'Password' field with masked characters. Below these tabs are five more tabs: 'HTTP', 'DDNS', 'NTP', 'Mail Setup', and 'FTP'. The 'DDNS' tab is selected. In the 'DDNS' tab, there's an 'Enable' checkbox (checked), a 'Port' field set to '80', and an 'Apply Key' field. At the bottom of the window are 'OK' and 'Cancel' buttons.

Item	Description
Enable	Enable / Disable PPPoE function.
User	Enter user name provided by ISP.
Password	Enter password provided by ISP.

5.5.1.4 3G Setup

Using the USB 3G dongle to access the network.

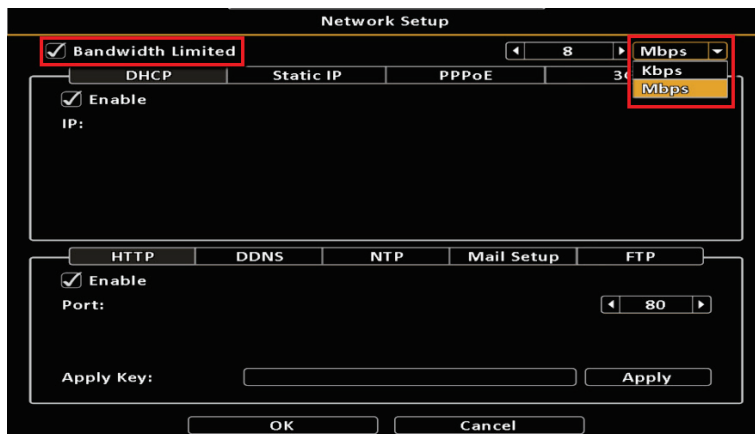
PS: only specific chip of 3G dongle is supported and the 3G dial-up features may not be compatible to some ISPs.



The screenshot shows the 'Network Setup' dialog box. At the top, there is a 'Bandwidth Limited' checkbox and a speed selector set to '8 Mbps'. Below this, the '3G' tab is selected. It contains an 'Enable' checkbox, a 'Dial Number' field, and fields for 'PIN', 'APN', 'User', and 'Password'. Below the 3G section, the 'HTTP' tab is selected, showing an 'Enable' checkbox and a 'Port' set to '80'. There is also an 'Apply Key' field and an 'Apply' button. At the bottom are 'OK' and 'Cancel' buttons.

Item	Description
Enable	Enable / Disable 3G function.
Dial Number	Dial-up Number, offer by the ISP.
PIN	Enter SIM card password.
APN	Enter "internet" or other value offered by the ISP.
User	Enter ISP username.
Password	Enter ISP password.

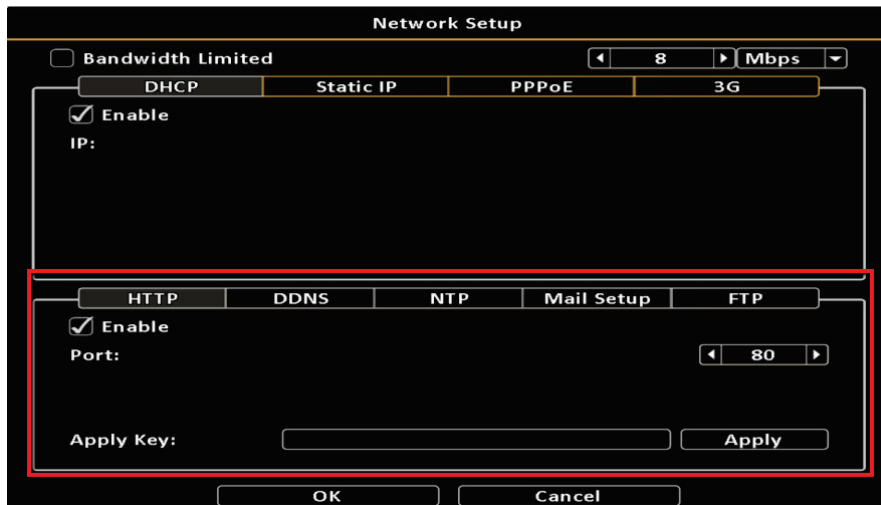
5.5.1.5 Bandwidth Limited



The screenshot shows the 'Network Setup' dialog box with the 'Bandwidth Limited' checkbox checked. The speed selector is set to '8 Mbps'. The 'DHCP' tab is selected. Below it, the 'Enable' checkbox is checked, and there is an 'IP' field. Below the DHCP section, the 'HTTP' tab is selected, showing an 'Enable' checkbox and a 'Port' set to '80'. There is also an 'Apply Key' field and an 'Apply' button. At the bottom are 'OK' and 'Cancel' buttons. Red boxes highlight the 'Bandwidth Limited' checkbox and the speed selector.

Item	Description
Bandwidth	Range: 1~9999.
Limited	Kbps, Mbps.

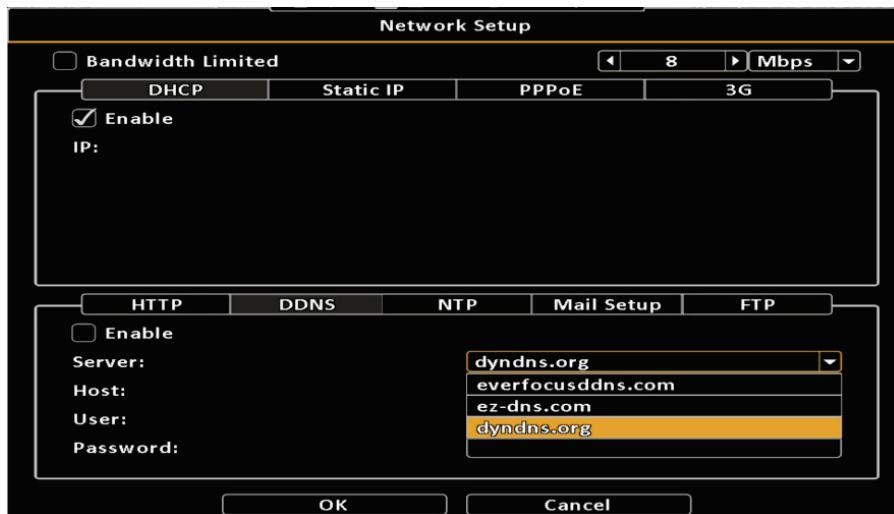
5.5.2 HTTP Setup



The screenshot shows the 'Network Setup' window. At the top, there's a 'Bandwidth Limited' checkbox and a speed selector set to '8 Mbps'. Below this are tabs for 'DHCP', 'Static IP', 'PPPoE', and '3G'. The 'HTTP' tab is selected, and the 'Enable' checkbox is checked. The 'Port' is set to 80. The 'Apply Key' field is empty. The 'Apply' button is visible. The 'OK' and 'Cancel' buttons are at the bottom.

Item	Description
Enable	Check to enable HTTP server. Users can remotely access into the DVR over the network if the HTTP function is activated.
Port	Enter a valid port value from 1 up to 65535. The default value is 80.

5.5.3 DDNS Setup



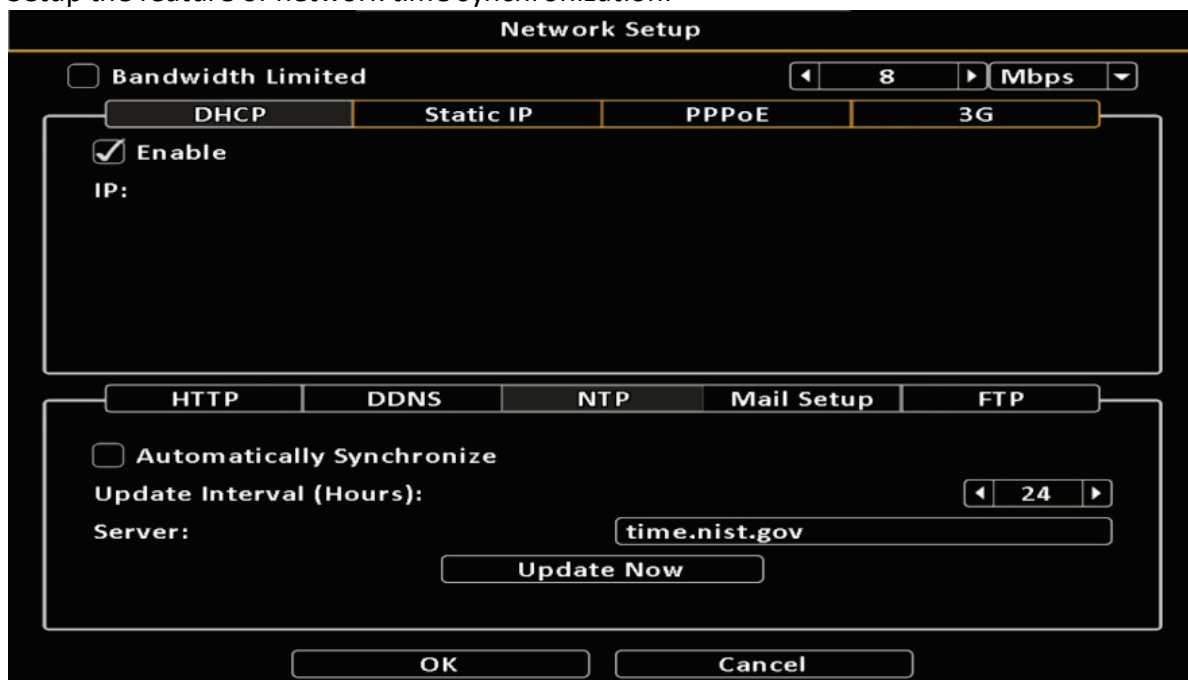
The screenshot shows the 'Network Setup' window. At the top, there's a 'Bandwidth Limited' checkbox and a speed selector set to '8 Mbps'. Below this are tabs for 'DHCP', 'Static IP', 'PPPoE', and '3G'. The 'DDNS' tab is selected, and the 'Enable' checkbox is unchecked. The 'Server' dropdown is set to 'dyndns.org'. The 'Host', 'User', and 'Password' fields are empty. The 'Apply' button is visible. The 'OK' and 'Cancel' buttons are at the bottom.

Item	Description
Enable	Enable / Disable DDNS function.
Server	Enter the registered DDNS Server: Everfocusddns.com, ez- dns.com, dyndns.org ez- dns.com Supports automatic assignment DDNS

	When using this DDNS service, the system will automatically bring up to C + DVR Mac Address last six yards at the beginning of a host site, such as the Mac end of the six yards of FD5CCD, and then bring out the host site at CFD5CCD.i-dvr.net or CFD5CCD.ez-dns.com.
Host	Enter the full DDNS address. (Including username + Server)
User	Enter user name.
Password	Enter password.

5.5.4 NTP Setup

Setup the feature of network time synchronization.

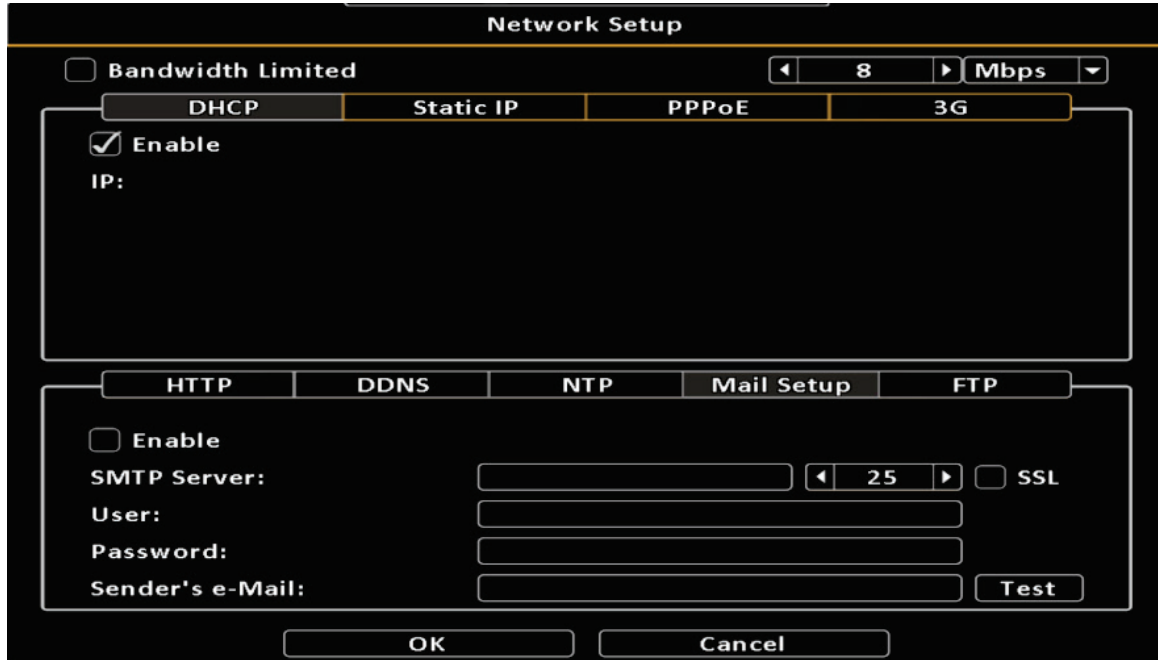


The screenshot shows the 'Network Setup' window. At the top, there's a 'Bandwidth Limited' checkbox and a speed selector set to '8 Mbps'. Below this are tabs for 'DHCP', 'Static IP', 'PPPoE', and '3G'. The 'DHCP' tab is selected, and the 'Enable' checkbox is checked. Below the 'DHCP' tab, there's an 'IP:' label. At the bottom, there are tabs for 'HTTP', 'DDNS', 'NTP', 'Mail Setup', and 'FTP'. The 'NTP' tab is selected. In the 'NTP' section, there's an 'Automatically Synchronize' checkbox, an 'Update Interval (Hours)' selector set to '24', and a 'Server' field containing 'time.nist.gov'. An 'Update Now' button is located below the server field. At the very bottom of the window are 'OK' and 'Cancel' buttons.

Item	Description
Automatically Synchronize	Check to enable DVR automatic synchronization function when rebooting.
Update Interval (Hours)	Set up interval for time synchronization.
Server	Set up time server address.
Update Now	Update the time information from the NTP server immediately.

5.5.5 Mail Setup

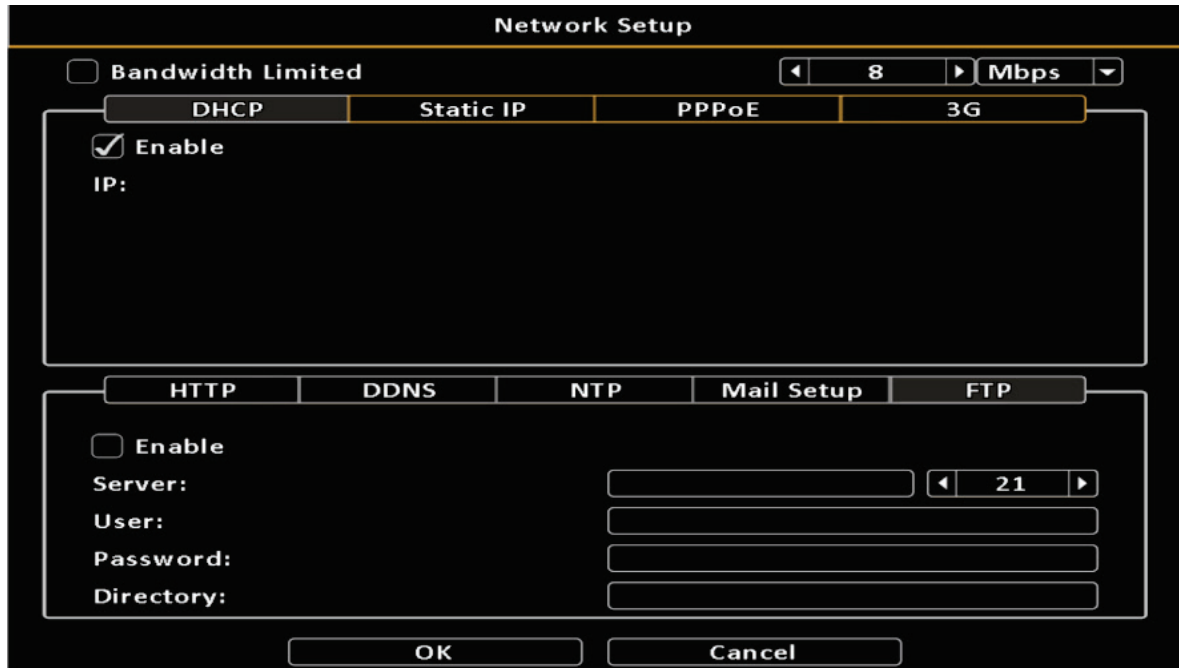
The Mail Setup tab controls the email-sending configuration when the DVR needs to send e-mail to specified users.



The screenshot shows the 'Network Setup' window with the 'Mail Setup' tab selected. At the top, there is a 'Bandwidth Limited' checkbox and a speed selector set to '8 Mbps'. Below this are tabs for 'DHCP', 'Static IP', 'PPPoE', and '3G'. The 'DHCP' tab is active, showing an 'Enable' checkbox which is checked, and an 'IP:' label. Below these are tabs for 'HTTP', 'DDNS', 'NTP', 'Mail Setup', and 'FTP'. The 'Mail Setup' tab is active, showing an 'Enable' checkbox which is unchecked. Below this are fields for 'SMTP Server:', 'User:', 'Password:', and 'Sender's e-Mail:', each with a corresponding input box. To the right of the 'SMTP Server' field is a port selector set to '25' and an 'SSL' checkbox. A 'Test' button is located to the right of the 'Sender's e-Mail' field. At the bottom are 'OK' and 'Cancel' buttons.

Item	Description
Enable	Check the box to enable/disable E-mail Notification function
SMTP Server	Set up SMTP Server name and port
User	Enter to set up the username.
Password	Enter to set up the password.
Sender's e-Mail	Enter to set up e-mail address of the sender.

5.5.6 FTP Setup

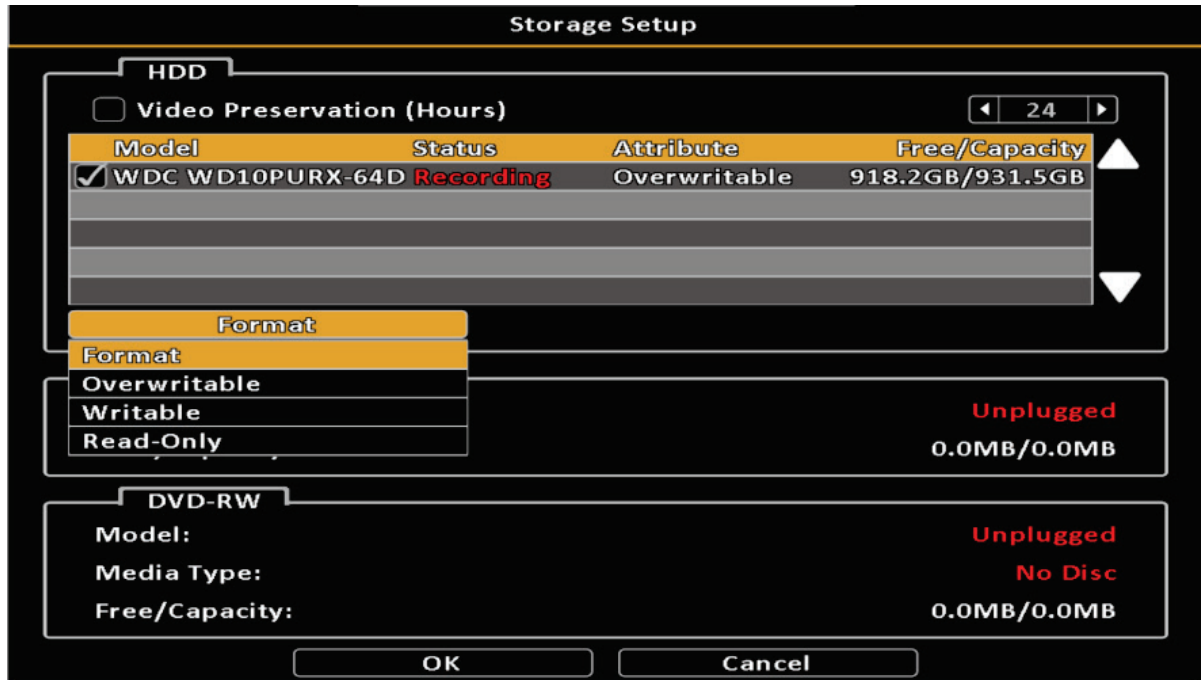


The image shows a 'Network Setup' dialog box. At the top, there is a 'Bandwidth Limited' checkbox and a speed selector set to '8 Mbps'. Below this are four tabs: 'DHCP', 'Static IP', 'PPPoE', and '3G'. The 'DHCP' tab is selected, showing an 'Enable' checkbox which is checked, followed by an 'IP:' label. Below these tabs are five more tabs: 'HTTP', 'DDNS', 'NTP', 'Mail Setup', and 'FTP'. The 'FTP' tab is selected, showing an 'Enable' checkbox which is unchecked, followed by labels for 'Server:', 'User:', 'Password:', and 'Directory:', each with a corresponding text input field. To the right of the 'Server:' field is a port selector set to '21'. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Item	Description
Enable	Check the box to enable/disable FTP function.
Server	Set up FTP Server name and port.
User	Enter to set up the username.
Password	Enter to set up the password.
Directory	Upload FTP directory path.

5.6 Storage Setup

5.6.1 HDD Setup



The screenshot shows the 'Storage Setup' window. Under the 'HDD' tab, there is a 'Video Preservation (Hours)' setting set to 24. Below this is a table of HDDs. The first HDD is selected with a checkmark and shows 'WDC WD10PURX-64D' in the Model column, 'Recording' in the Status column, 'Overwritable' in the Attribute column, and '918.2GB/931.5GB' in the Free/Capacity column. Below the table is a 'Format' button. Under the 'DVD-RW' tab, there are fields for 'Model:', 'Media Type:', and 'Free/Capacity:', all showing 'Unplugged' or 'No Disc' status.

Model	Status	Attribute	Free/Capacity
✓ WDC WD10PURX-64D	Recording	Overwritable	918.2GB/931.5GB

Format

Format

Overwritable

Writable

Read-Only

Unplugged

0.0MB/0.0MB

DVD-RW

Model:

Media Type:

Free/Capacity:

Unplugged

No Disc

0.0MB/0.0MB

OK Cancel

Item	Description
Video Preservation (Hours)	Setup the video preservation period. Recorded video will be deleted automatically after expiry of preservation period.
Model	Display HDD model.
Status	Display HDD status (Recording / Error).
Attribute	Display HDD Attribute (Over-writable / Writable / Read-Only).
Free/Capacity	Display HDD capacity (Free / Capacity).
Format	Check the hard disk drive and press "Format", there are four options to set the HDD. Start Format HDD DVR. Status bar "successful" HDD initialization! Enter the menu, and there will be all of the hard disk information (model, capacity).
Over-writable	Set the hard disk to be replicated state will start to overwrite the hard disk is full.
Writable	Set the hard disk as writable state, after the hard disk is full stop writing.
Read-Only	Set the hard disk is read-only, read-only cannot be written to the hard disk.

5.6.2 USB Flash Device Setup

USB Flash Drive	
Model:	Unplugged
Free/Capacity:	0.0MB/0.0MB

Item	Description
Model	Display USB flash drive model.
Free/Capacity	Display USB flash drive capacity (Free / Capacity).

5.6.3 USB Flash Device Setup

DVD-RW	
Model:	Unplugged
Media Type:	No Disc
Free/Capacity:	0.0MB/0.0MB

Item	Description
Model	Display DVR-RW model.
Media Type	Display disk type.
Free/Capacity	Display DVR-RW capacity (Free / Capacity).

5.7 System Setup

System Setup	
DVR Name:	DVR EPHD16-U
Language:	English
Video Format Detection:	NTSC
<div>Auto Lock</div> <input type="checkbox"/> Enable <div>Timeout (Sec)</div> <div>60</div>	
<div>Auto Reboot</div> <input checked="" type="checkbox"/> Disable <div>Every Day</div> <div>Every Week</div>	
<div>Reboot Settings</div> <input checked="" type="checkbox"/> NTSC <input type="checkbox"/> PAL <input type="checkbox"/> NTSC 960H <input type="checkbox"/> PAL 960H <div>Reboot</div> <div>Close</div>	
<div>Date/Time Setup</div> <div>Monitor Setup</div> <div>Input Setup</div> <div>Utility</div>	
Dual Monitor:	Duplicate
<div>OK</div> <div>Cancel</div>	

Item	Description
DVR Name	The name of DVR to be shown while users login from remote site.
Language	Specify the OSD language.
Video Format Detection	Specify the format of video signal (auto-detect, NTSC, PAL). The configuration requires DVR reboot to take effect.

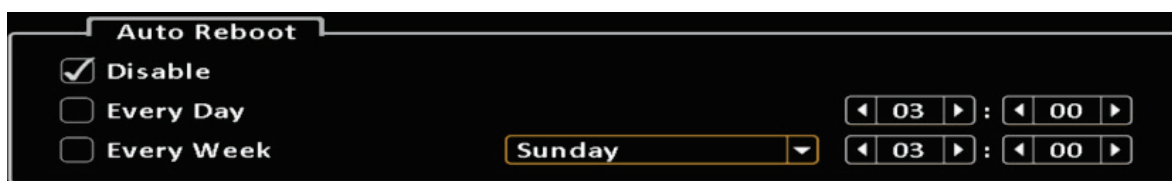
5.7.1 Auto Lock



The screenshot shows the 'Auto Lock' configuration window. It has a title bar 'Auto Lock'. Inside, there is a checkbox labeled 'Enable' which is currently unchecked. Below it, the text 'Timeout (Seconds):' is followed by a numeric input field showing '60' with left and right arrow buttons for adjustment.

Item	Description
Enable	Enable / Disable Auto Lock
Timeout (Seconds)	Set the number of seconds to wait. If there is no action, the panel will be automatically locked and the DVR will log out the current user. When the DVR logs out automatically, it only supports basic operations, such as picture freezing, picture, zoom, and auto switch channel, screen-split. To enter the setup menu, search menu, backup menu, status query, playback, and other operations, users need to input the username and password to login in. Available timeout value is from 10 to 9999 seconds.

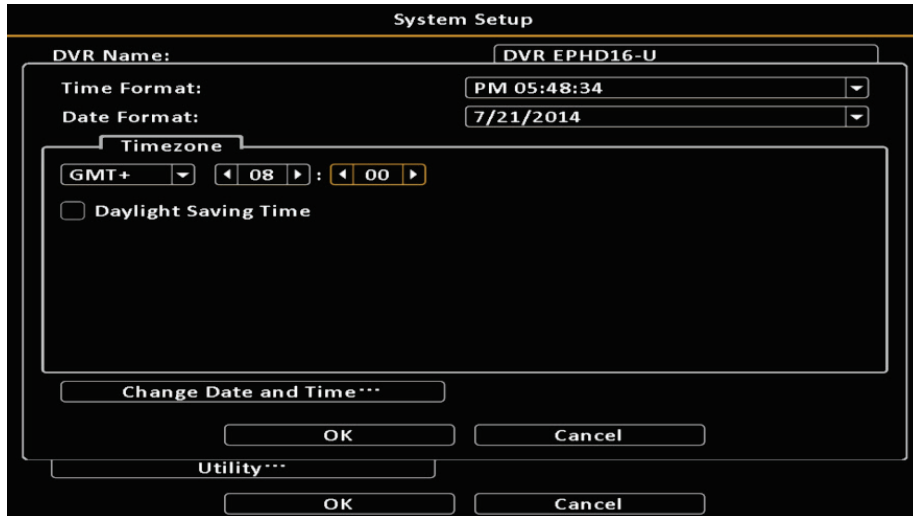
5.7.2 Auto Reboot



The screenshot shows the 'Auto Reboot' configuration window. It has a title bar 'Auto Reboot'. Inside, there are three options: 'Disable' (checked), 'Every Day' (unchecked), and 'Every Week' (unchecked). To the right of these options are two time selection fields. The first field shows '03' and '00' separated by a colon, with left and right arrow buttons. The second field shows '03' and '00' separated by a colon, with left and right arrow buttons. Below the 'Every Week' option, there is a dropdown menu currently showing 'Sunday'.

Item	Description
Disable	Enable / Disable Auto Reboot.
Every day	Setup the time of daily auto-reboot.
Every Week	Setup the time of weekly auto-reboot.

5.7.3 Date/Time Setup



System Setup

DVR Name: DVR EPHD16-U

Time Format: PM 05:48:34

Date Format: 7/21/2014

Timezone

GMT+ 08:00

☐ Daylight Saving Time

Change Date and Time...

OK Cancel

Utility...

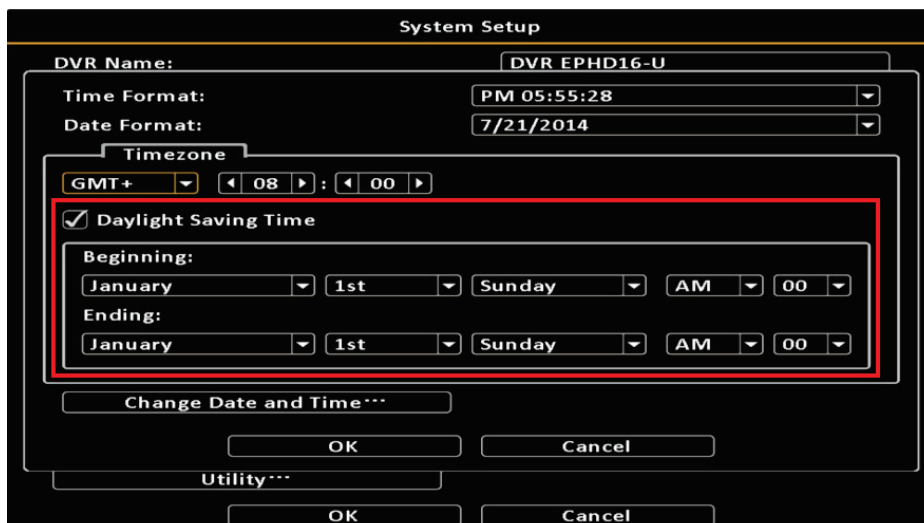
OK Cancel

Item	Description
Hour Format	12 HOURS / 24 HOURS.
Date Format	MM-DD-YY / DD-MM-YY / YY-MM-DD.

5.7.3.1 Time Zone

Item	Description
Time Zone Setup	Set up the time zone of the DVR, from GMT – 13~ GMT+ 13.
Daylight Saving Time	Enable / Disable Daylight Saving Time.

5.7.3.2 Daylight Saving Time Setup



System Setup

DVR Name: DVR EPHD16-U

Time Format: PM 05:55:28

Date Format: 7/21/2014

Timezone

GMT+ 08:00

☒ Daylight Saving Time

Beginning:

January 1st Sunday AM 00:00

Ending:

January 1st Sunday AM 00:00

Change Date and Time...

OK Cancel

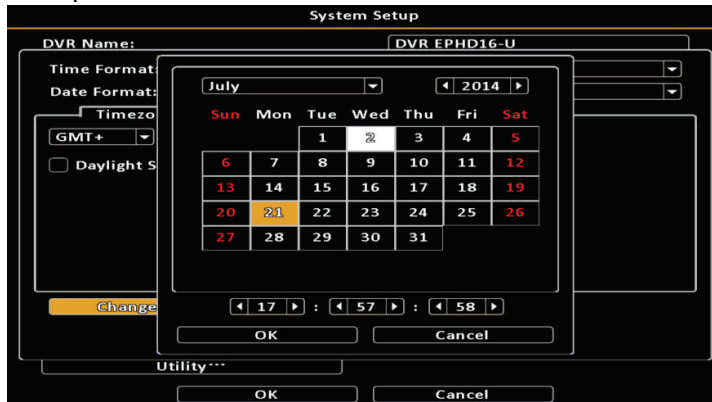
Utility...

OK Cancel

Item	Description
Beginning	Setup the beginning time of Daylight Saving Time.
Ending	Setup the ending time of Daylight Saving Time.

5.7.3.3 Change Date and Time

Set up date and time of the DVR.



5.7.4 Monitor Setup

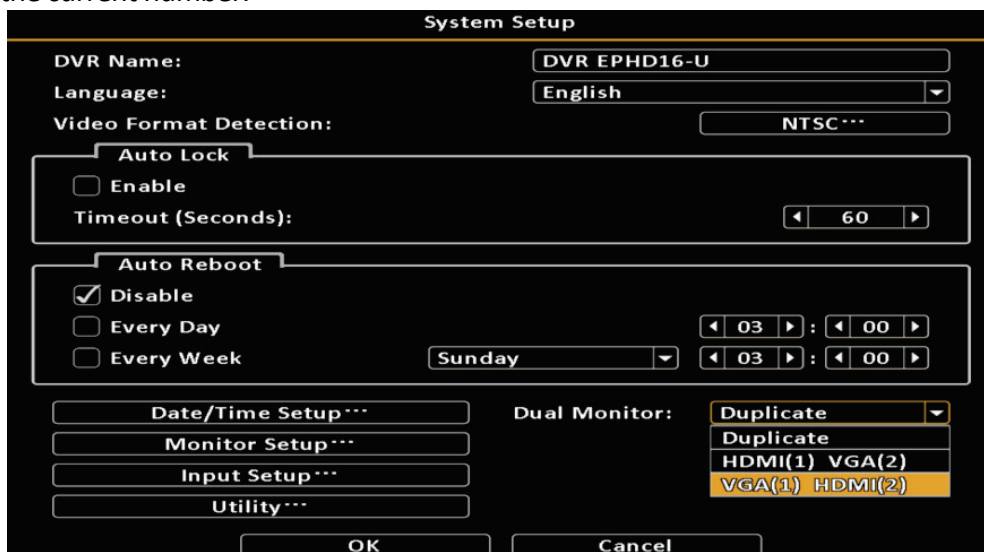
Users have to decide which one is the main screen, which is the second screen. There are three configurations.

In duplicate mode, both monitors display the same content.

In the HDMI (1) VGA (2) mode, HDMI will be the screen 1, VGA will be the screen 2.

In VGA (1) HDMI (2) VGA mode, VGA will be the screen 1, HDMI will be the screen 2. BNC output terminals are the same as with the contents of a screen 1.

Screen 1 and Screen 2 output can be set separately in the upper left corner of the screen will show the current number.

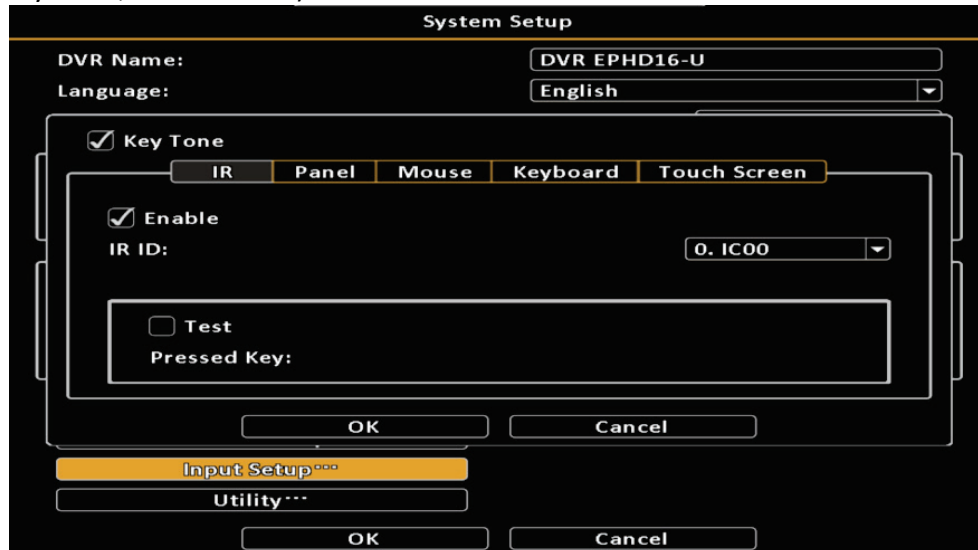




Item	Description
1 / 2	Set the main screen (1) the second screen (2) screen display setup menu.
Resolution	Select screen resolution.
Border Color	Set the color of border.
Luminance	Set brightness, from 0 to 100.
Contract	Set screen display color contrast, from 0 to 100.
Saturation	Set screen display color saturation from 0 to 100.
Hue	Tone color tone setting screen displayed from 0 to 100.

5.7.5 Input Setup

The Input Setup allows users' setup input device (Key Tone, Remote control, Panel, Mouse, Keyboard, Touch screen).



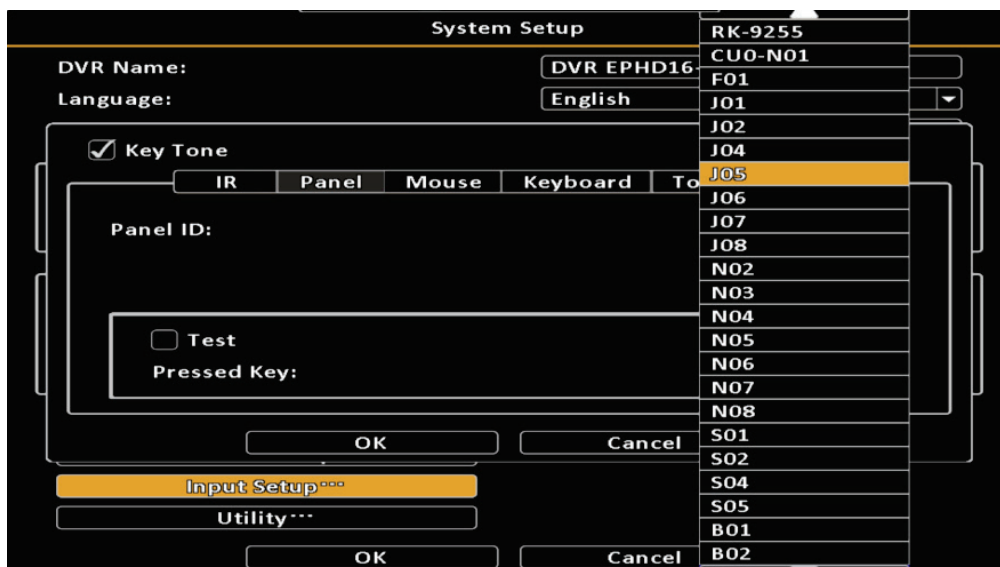
Item	Description
Key Tone	Enable / Disable Key Tone.

5.7.5.1 Remote Control Setup



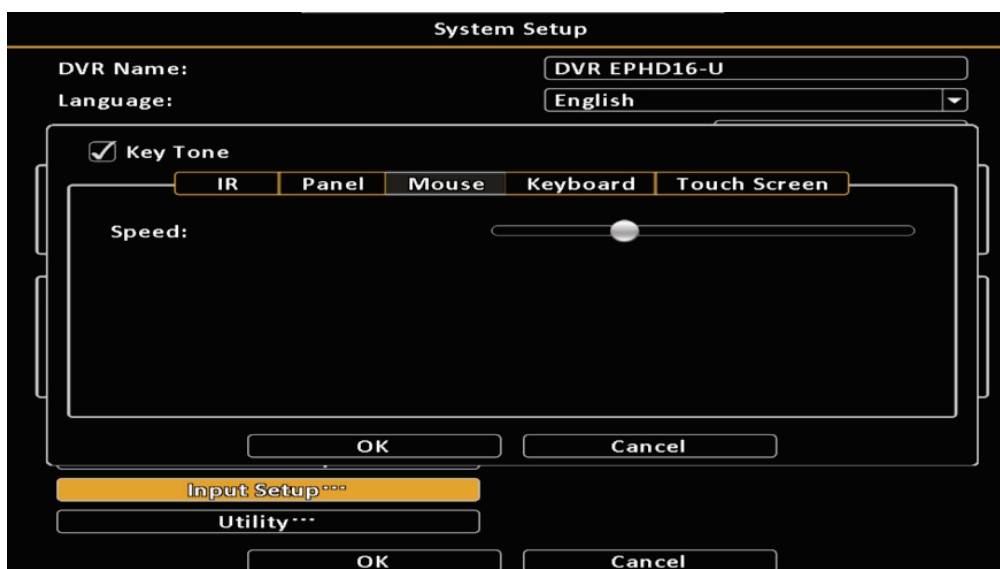
Item	Description
Enable	Enable / Disable remote control.
IR ID	Default ID is 0. DVR is controlled by standard remote control. The number of the remote control is corresponding to the DVR numbers (DVR1 → IC01, DVR2 → IC02); therefore, if you set up IC02 on the OSD, you need to press DVR2 button on the remote control.
Test	Enable / Disable test function.
Pressed Key	Display pressed key information.

5.7.5.2 Panel Setup




Item	Description
Test	Enable / Disable panel button test function.
Press Key	Display information of the pressed key.

5.7.5.3 Panel Setup



Item	Description
Speed	Setup the mouse cursor speed. The right side of the slider means the faster mouse speed. (Only valid for local configuration).

5.7.5.4 PTZ Keyboard Setup



The screenshot shows the 'System Setup' window with the 'Key Tone' option checked. The 'Keyboard' tab is selected, displaying fields for 'RS-485 ID' (set to 1), 'RS-485 Baudrate' (set to 9600), and 'Keyboard' (set to None). There is also a 'Test' checkbox and a 'Pressed Key' field. Navigation buttons 'Input Setup...', 'Utility...', 'OK', and 'Cancel' are visible at the bottom.

Item	Description
RS-485 ID	RS-485 ID, valid values range from 1 to 64.
RS-485 Baud rate	RS-485 Baud rate from 2400, 4800, 9600, 19200.
Keyboard	Select PTZ Keyboard.
Test	Enable / Disable keyboard test function.
Press Key	Display press key information.

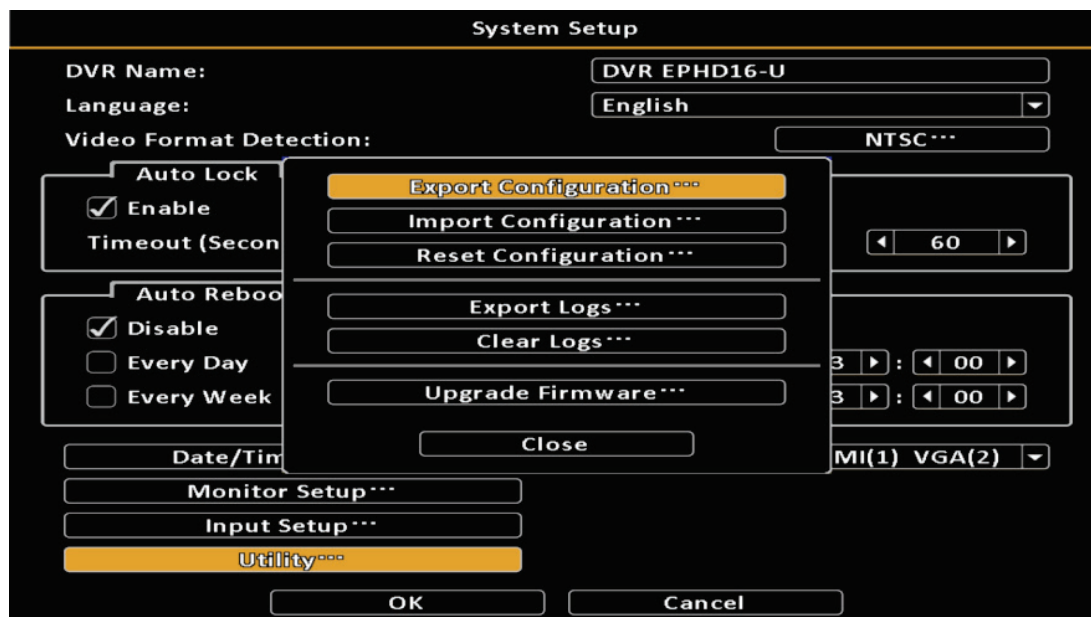
5.7.5.5 Touch Screen Setup



The screenshot shows the 'System Setup' window with the 'Key Tone' option checked. The 'Touch Screen' tab is selected, displaying a large empty rectangular area for calibration. Navigation buttons 'OK', 'Cancel', 'Input Setup...', and 'Utility...' are visible at the bottom.

Users can calibrate the touch screen which needs recalibration.

5.7.6 Utility Setup

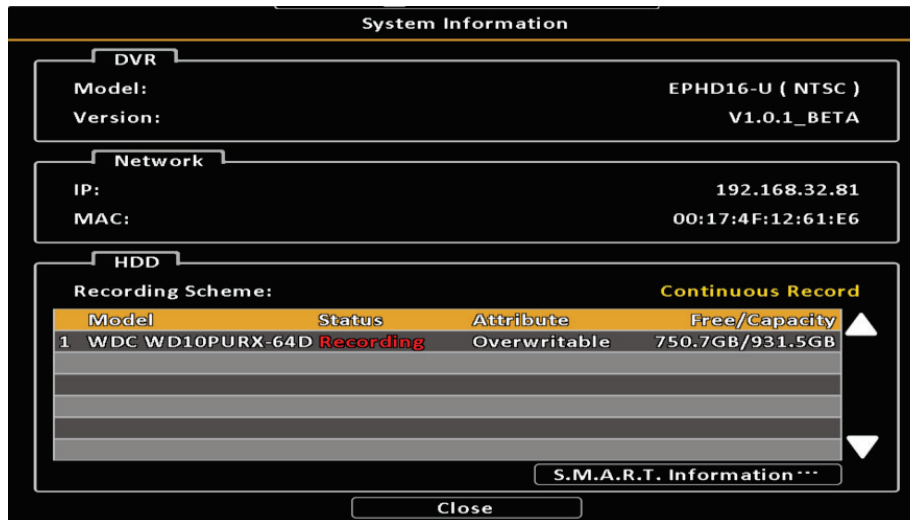


Item	Description
Export Configuration	Export DVR configuration to a USB flash drive or a remote PC.
Import Configuration	Import configuration from a USB flash drive or a remote PC to DVR.
Reset Configuration	Reset system configuration.
Export Logs	Save DVR system log to a USB flash drive or a remote PC.
Clear Logs	Clear all DVR system log.
Upgrade Firmware	Upgrade DVR firmware through a USB drive. Please stop recording and backup DVR configuration before upgrading. System will reboot automatically when the upgrade is done.

Note:

- The upper USB port on the front panel is currently reserved. Please use the other two ports.
- DO NOT TURN OFF POWER OR UNPLUG USB DEVICE DURING THE UPGRADE because that may cause incomplete firmware upgrade and damage the DVR.**

5.8 System Information



5.8.1 DVR Information

Item	Description
Model	Displays DVR model name and video type.
Version	Displays DVR firmware version.

5.8.2 Network Information

Item	Description
IP	Displays the DVR IP address. If there is no network connection, it will show "Network is not connected."
MAC	Displays the DVR MAC address.

5.8.3 HDD Information

Item	Description
Recording Scheme	Displays installed HDD recording type.
Model	Displays installed HDD model.
Status	Displays installed HDD recording status.
Attribute	Displays installed HDD attribute (Over-writable/Writable/Read-Only).
Capacity	Displays installed HDD capacity (Free/Capacity).

5.8.4 S.M.A.R.T Information

System Information

DVR
Model: EPHD16-U (NTSC)

ID	Value/Worst/Threshold	Raw
01 Raw Read Error Rate	200 / 200 / 51	0
03 Spin Up Time	141 / 138 / 21	3916
04 Start/Stop Count	100 / 100 / 0	172
05 Reallocated Sector Count	200 / 200 / 140	0
07 Seek Error Rate	200 / 200 / 0	0
09 Power-On Hours Count	99 / 99 / 0	996
0A Spin-up Retry Count	100 / 100 / 0	0
0B Calibration Retry Count	100 / 100 / 0	0
0C Power Cycle Count	100 / 100 / 0	172
C0 Power-Off Retract Cycle	200 / 200 / 0	171


Close

S.M.A.R.T. Information***

Close


Chapter 6

6. Remote Access by the IE Browser or Software

The DVR allows users to remotely access and control the DVR from a PC by the  **EverFocus DVR** software or IE v6.0 or above.

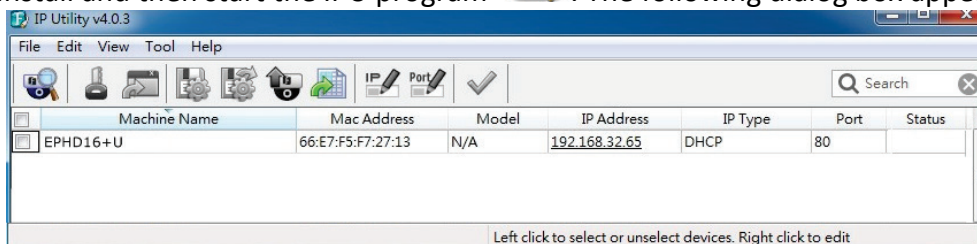
Please note that The DVR currently supports Windows XP SP2 or above and Windows Vista, Windows 7.


6.1 IE Browser Connection

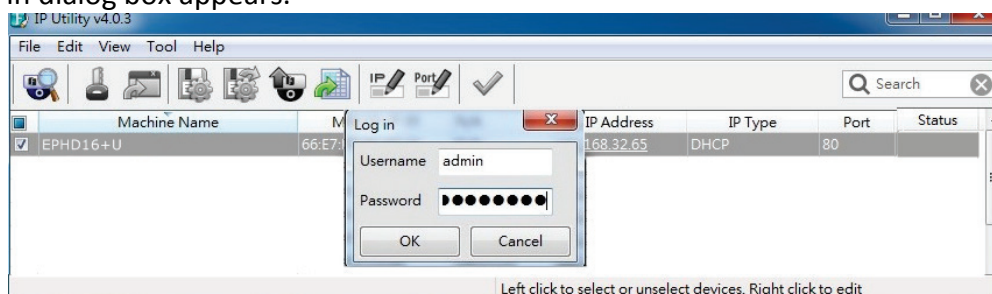
EverFocus provides a useful tool, the  **IP Utility (IPU)** program, for you to look up the IP address and quickly access the Web interface of the DVR with the IE browser. To download the IPU program, please go to: http://www.everfocus.com/HQ/Support/DownloadCenter_p1.aspx.

However, you can also manually access the Web interface by entering the IP address on the Address Bar of the IE browser. Please note that you need to connect the DVR in the same LAN of your computer.

1. Install and then start the IPU program . The following dialog box appears.



2. IPU will automatically search the IP devices connected in the LAN. The default network values of the IP devices will be displayed. By default, the network protocol of the IP device is **DHCP**.
3. To optionally configure the Machine Name, IP Address, IP Type or Port Number using the IPU:
 - a. Log in the DVR by checking the desired model and then click the **Log in**  icon. The Log in dialog box appears.




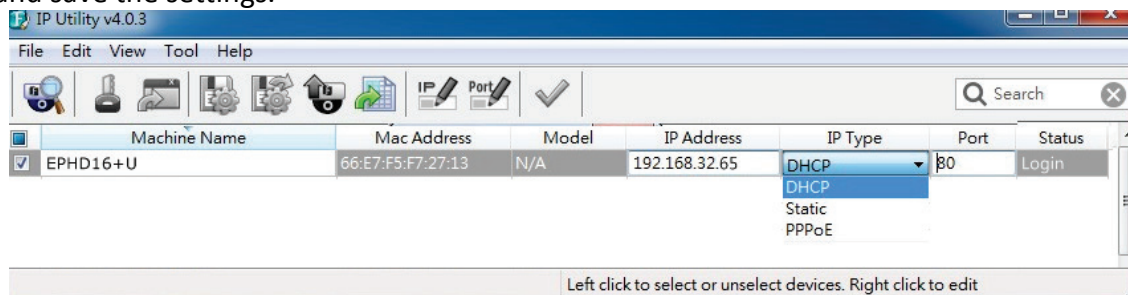
- b. Type the Username and Password. Click the **OK** button, the status of the selected camera will display **Login**.

	Machine Name	Mac Address	Model	IP Address	IP Type	Port	Status
<input checked="" type="checkbox"/>	EPHD16+U	66:E7:F5:F7:27:13	N/A	192.168.32.65	DHCP	80	Login

Note:

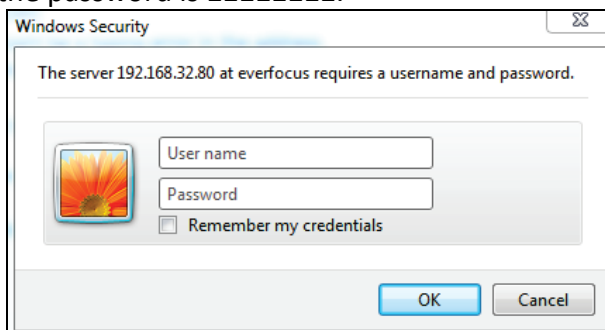
3. The default user ID is **admin** and the default password is **11111111**.
4. If you select more than one DVRs that have the same user ID / password, you will be able to log in several DVRs at once.

- c. Right click the column to configure the setting. Click **Apply Changes**  button to apply and save the settings.



Note: Most networks uses DHCP to assign IP address, if you are unsure of your network settings, please consult your network administrators for configuration details.

4. To access to the Live View window, double click the IP address of the desired device, the login window pops up. Type the user ID and password to log in. By default, the user ID is **admin** and the password is **11111111**.

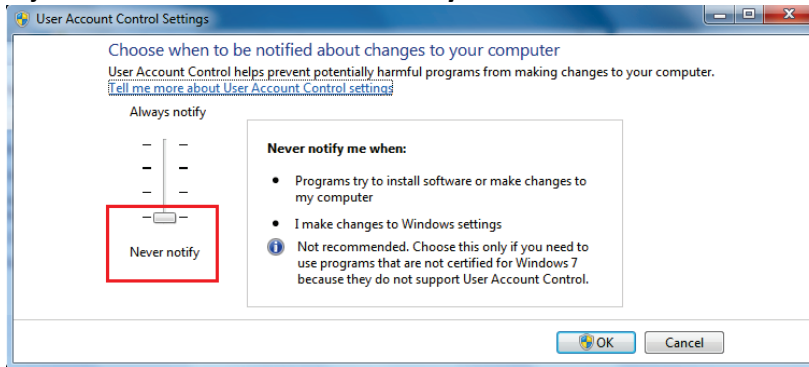


5. When using the IP Utility to remotely access to the DVR, it will open the Web interface using the **IE browser**, and the following dialog may appear for the first time. Please click "**Allow**" to run the add-on.

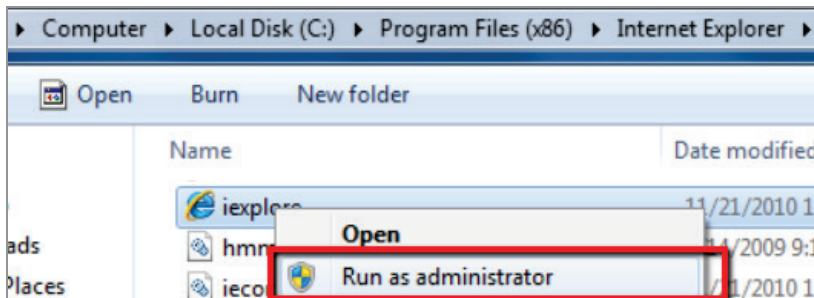


6. You may need to turn User Account Control off if you still can't see the Remote Live View, please see the step below.

7. On the computer, click Start > Control Panel > System and Security > Action Center (click Change User Account Control Settings), the **User Account Control Settings** window appears. Adjust the slide bar to **Never Notify** and then click **OK**. Restart your computer if requested.




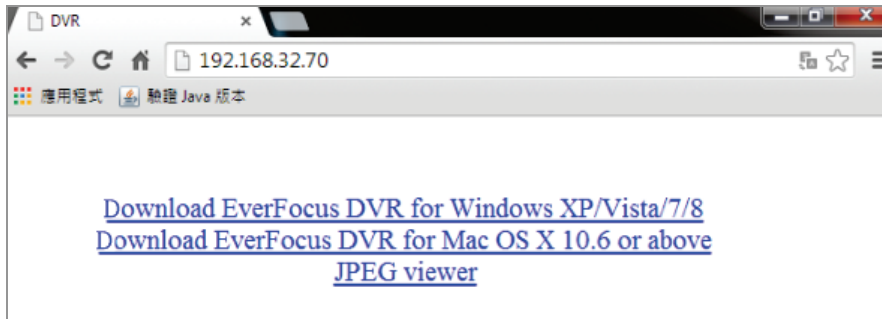
8. If your PC or laptop is running with Windows 8 or 8.1, it's required to run the browser as administrator when first entering the remote web page of the device. Go to **C:\Program Files (x86)\Internet Explorer**, right-click the browser and then click **Run as administrator**.



9. Now you will be able to see the remote live page.

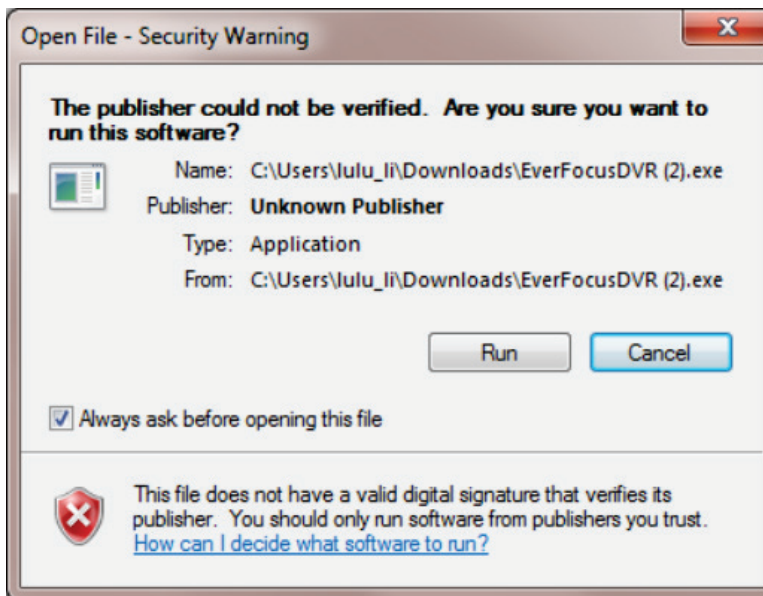
6.2 Software Connection

1. Open any browser except the IE browser, and enter the IP address of the DVR on the address bar.
2. You will be asked to download the  **EverFocus DVR** software and click the correct application which supports your operating system.

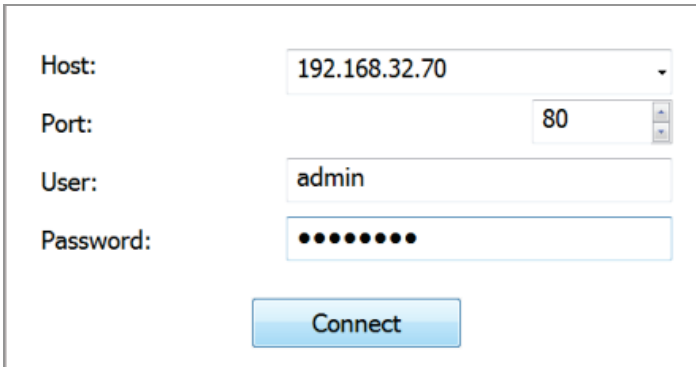


3. After the download, the following window will pop up; just click “Run” to run the software.

You can also manually double-click the  **EverFocus DVR** software from the downloaded folder to open the software.



4. When the window shows up as below, enter the IP address in the **Host** field, select **Port** “80”, enter “admin” and “11111111” in the **User** and **Password** fields respectively.



Host: 192.168.32.70

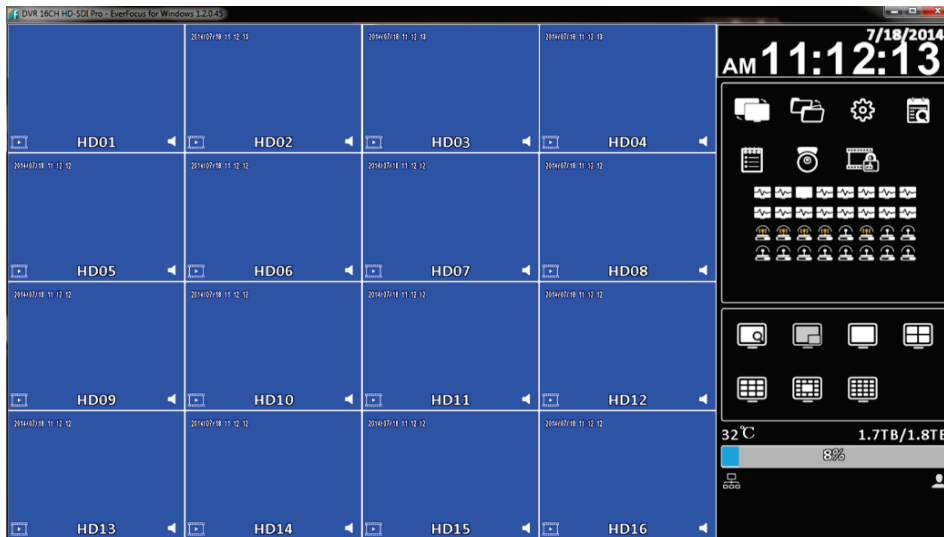
Port: 80

User: admin

Password: ••••••••

Connect

5. Click **Connect** to successfully access to the Web interface.



Chapter 7

7. Specifications

Model Name		EPHD16+U
System		
Operating System		Embedded Linux
Number of Channels		16CH
RAM		2 GB
Watchdog		Yes
Dual Stream		Yes
OSD Menu		Yes
System Control		Front Panel Buttons, Mouse, Web UI, IR Remote Control
Pentaplex Operation		Simultaneous Live, Recording, Playback, Archive and Remote Viewing
PTZ Protocol Supported		EverFocus, Pelco D, Pelco P, Samsung, Transparent
Video		
Video Compression Format		H.264
Video Format		NTSC / PAL (auto detected by system)
Video Inputs		16 on CVBS (HD-SDI or WD1)
Video Outputs		Main Monitor: HDMI or VGA (selectable) Call Monitor: CVBS
Recording		
Recording Frame Rate	NTSC	30 fps/ch at 1080p (Total: 480 fps)
	PAL	25 fps/ch at 1080p (Total: 400 fps)
Playback Frame Rate	NTSC	30 fps/ch at 1080p (Total: 480 fps)
	PAL	25 fps/ch at 1080p (Total: 400 fps)
Recording Modes		Manual, Schedule and Event
Playback Search		Date / Time Search, Event Search
Audio		
Audio Input		8 x RCA socket; Line level
Audio Output		2 x RCA socket; Line level
Alarm		
Alarm Inputs		16 inputs
Alarm Outputs		4 x relays; 30 VDC at 1A rating
Storage Device		
Internal 3.5" HDD		6 Internal SATA HDDs, up to 24 TB

External Storage (optional)	1 eSATA port (EDA450), up to 8 TB
Network	
Ethernet	1x Gigabit Ethernet
Protocol	TCP-IP / DHCP / PPPoE / DDNS / UDP / SMTP / RTP / RTSP / NTP
Interface	
USB 2.0	2 x USB 2.0 port (the upper USB port on Front Panel is currently reserved)
RS-485	3 pin Terminal connector
Ethernet	1 x RJ-45
Power	3-pin power socket
General	
Power Input	100-240 VAC~
Power Consumption	150W max.
Operating Temperature	0°C~40°C / 32°F~104°F (20~80% humidity)
Dimensions (W x D x H)	395 x 430 x 79.5 mm / 15.6" x 16.9" x 3.2"
Weight	6.0kgs / 13.23lbs (without HDDs)
Language	English, Japanese, Traditional Chinese, Spanish, Deutsch, French, Russian, Portuguese (Brazil), Dutch, Simplified Chinese
Regulatory	CE, FCC
Applications	
Remote View Support	Remote live view and playback support on the IE web browsers and EverFocus DVR software Integrated with EverFocus' Genie XMS and PowerVideo Plus
Mobile View Support	Live view on mobile browsers Integrated with EverFocus' Mobile applications MobileFocus (Plus) for iOS and Android devices
Functions	
Video Pause	Yes
Video Loss Detection	Yes
Motion Detection	Yes
Event Log	Yes
User Interface	GUI (Graphical User Interface)
Schedule Setting	Yes
User Access	3 Levels of User Access Defined

Note:

NVIDIA: GeForce FXseries, GeForce 6series, GeForce 7series, GeForce 8series, GeForce 9series.GeForce 200series. etc.

ATI: Radeon R300series, Radeon R400series, Radeon R500series, Radeon R600series, Radeon R700series, Radeon HD3xxxI GPseries, Mobility Radeon series (9500above), Mobility Radeon Xseries, Mobility Radeon HD series, or FireGL V series etc.

SiS: SiS 67X series, or SiS 77X series etc.

Intel: 91Xseries, 94Xseries, 96Xseries, G3Xseries, or G4Xseries, etc.

Or visit: http://en.wikipedia.org/wiki/Intel_GMA

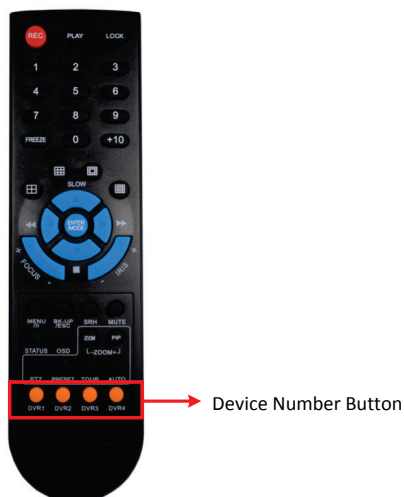
Appendix E: IR Remote Control

To use the remote controller, please set up the IR ID for the DVR on the OSD setting menu. Please follow the steps below.

1. Go to Configure > System Setup > Input Setup > IR Setup. You can refer to 5.7.5.1 *Remote Control Setup*.



2. Check the **Enable** box and select an IR ID. The IR ID is corresponding to the **Device Number Button** on the remote control (IC01>DVR1, IC02>DVR2, IC03>DVR3, IC04>DVR4).
3. Click **OK** to save the setting.
4. Then, you need to press corresponding Device Number Button. For example, if you select **IC03** on the OSD setting, then you need to press the **DVR3** button on the remote control.



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